NEW-YORK FARMER,

AND

AMERICAN GARDENER'S MAGAZINE.

"Agriculture at once the cause and evidence of civilization."

VOL. X.] PUBLISHED MONTHLY, AT 30 WALL-ST., AT THREE DOLLARS A-YEAR, IN ADVANCE. [No. 8.

D. K. MINOR, and GEO. C. SCHAEFFER, } Editors and Proprietors. FOR JUNE 15, 1837. NEW SERIES—VOL. V.

CONTENTS:

Communication; Animal Manure,	193
Communication, Limestone,	194
Management of Bees,	195
Tropical Fibrous Plants,	196
Studies in the Science and Practice of Agriculture, as connected with Physics,	198
Culture of Ruta Baga,	199
Durham Bull Essex; Valuable Improvement; &c.	200
The Crop in Indiana; City and Country Life,	201
Nothing is beneath the attention of a Great Man,	202
Manure; &c.,	203
Precious Stones; &c.,	204
Items,	206

NEW-YORK FARMER.

JUNE 15, 1837.

THE NEW-YORK FARMER AND AMERICAN GARDENERS' MAGAZINE,

Will be *hereafter*, for the *remainder of this Volume*, published *semi-monthly*, in numbers of sixteen pages each. It has *heretofore* been published in *monthly parts*, *stitched*, and of course subject to *pamphlet* postage, which is, with many, an objection to the work; and *others* desire to receive the work more *frequently*. In order, therefore, to obviate this objection, and to gratify this reasonable desire, especially at *this* time, when agricultural pursuits are becoming more fashionable with many of our citizens than heretofore, we have concluded to commence the publication *semi*-monthly, and to send it to subscribers in the form of most *other* agricultural papers, without cover.

This arrangement will enable us to appropriate a small space in each number to advertisements, and we therefore solicit such as are appropriate, and may be desired by readers of agricultural publications.

We commend to our readers the following communication. It is from the pen of a practical farmer of great experience—from one who has long practiced what he recommends, and profited thereby—we ask for it not only an attentive perusal by our patrons, but also an extensive re-publication by those Editors with whom we exchange. Of the writer we ask frequent communications of the same kind.

For the New-York Farmer.

Messrs. Minor & Schaeffer—During a long life I have never witnessed a period wherein the necessity of agricultural improvement was so imperious as at present In an extensive fertile country it is wonderful to behold the inhabitants importing their bread stuffs and other forage—and for no other reason but for lack of industrious and skillful cultivation—thus we see a little Seagirt Island three thousand miles distant supplying the people of a fertile continent with those productions which our farmers ought to produce to supply them. This demonstrates what may be done by the powerful machinery of industry, knowledge, and skill, united. On viewing our present condition, I feel a blush of shame for myself, and my country—every acre of our soil, with no more labor, might produce double its present yield if all was done perfectly right. I say unto you my brother farmers we must do better. Listen for a moment to the voice of more than sixty years experience. Many good periodical works on agriculture are now extant—buy some one of them,—plain common sense will direct us to those articles that apply to our business. The New-York Farmer is a work I have prefered—it contains generally much useful information for us. Industry must lead the way, for this will produce knowledge, and knowledge will produce skill—and these three sublime atributes if kept in exercise would soon renovate the condition of our country, and this not only ought—but must be done—or otherwise hunger and shame will await us. I have only time at present for one general remark. Infinitely more may be done by contracting your cultivated acres and tilling them higher and to greater perfection. The time in arable and in grass culture should be short, say two years, or never exceed three; use plenty of grass seed,—white clover is one of the best. If a life already protracted and health shall be sustained, I shall be happy to confer with you again.

THE OLD MAN.

ANIMAL MANURE,—NIGHT SOIL, &c.

For the New-York Farmer.

NEW-YORK, May 12th, 1837.

Gentlemen—Agriculture is the source of the wealth of nations; the most enlightened governments have always given it encouragement, knowing that the earth pays generously a man's labor; therefore one is right to ask how it is that your country, which is productive enough to subsist, not only the American continent, but Europe also, is under the necessity of importing every year, so many thousand bushels of grain? This is a state of things by no means creditable to the country—but the surprise is still greater when you come to consider the high price of the first necessaries of life; especially of vegetables in your markets. The population of Paris and London are much larger than that of New-York, and yet the markets are more abundantly supplied with all those kinds of provisions, and at a much lower price. Is it the cause in the high price of, or rent paid for, land in the vicinity of New-York? or is it in the carelessness of cultivation, want of management, or ignorance of the use of *cheap* and *powerful* manure? The larger the city, the more abundant is the manure produced, *if it is well managed*—and properly attended to.

Allow me, Gentlemen to ask you what becomes of the cleaning of streets, and of the night soil?

In what state is the first article given to the farmer, and at what rate?

How do they manage in your city for the *second* article so much sought for in French, English, German, and Chinese husbandry?

What kind of animal manure do they make use of here, beside the bone manure, so costly after all?

Do they employ, or understand the value of, the manure known by the name of *Pou-*

drette, which is considered by all cultivators in Europe and China, as the most powerful manure used, when well prepared, by a *disinfecting* process, which *removes* the offensive effluvia of its unprepared state?

If any of your readers will furnish you with a statement in relation to its use and management in this country, for my benefit, I shall take pleasure in furnishing you with some interesting facts in relation to its use in France and Germany, for the benefit of agriculturists in the vicinity of New-York, and other large cities of the United States.

I am sir, very respectfully,

B.

The subject of *Animal Manure* has attracted considerable attention of late. We some time since received the preceding communication from a scientific foreigner, which induced us to make enquiry on one of the important subjects to which he alludes, and in reply we have received from a valued correspondent, the following important communication. It contains useful information to many of our readers; and will be the means, we hope, of inducing our correspondent B. to resume the subject in a way which may add another to our present means of improving the soil—a pursuit, in these trying times, to which *thousands* are resorting, who have heretofore viewed it as degrading. *Degrading! Agriculture* degrading? Who *is*, if the skilful cultivator of the soil is *not*, NATURES NOBLEMAN? And he, who discovers a *new* or applies successfully any previously discovered, but *unapplied*, process of improving the soil, so as to cause "two blades of grass to grow where one only grew before," is entitled to more gratitude and consideration, from his countrymen, and the world at large, than the successful conqueror of an hundred battles—who conquers to oppress.

The pursuit of agriculture is becoming more justly appreciated—and this feeling will gain ground precisely in proportion to the introduction of improved modes of cultivation—it therefore becomes the imperative duty of every friend to the cause to give it the aid of his experience and observation.

We hope soon to be able to publish many interesting facts on the subject.

From the New-York Farmer.

BOSON, MAY, 1837.

D. K. MINOR, ESQ.

DEAR SIR,—In answer to the inquiries in your late letter, I am happy to give you the best information which I can obtain.

"Night soil" is deemed one of the most powerful manures that can be used; and my own experience in its use, which has been considerable, confirms this opinion. It is much used in China, where it is mixed with marl; in this way freed from its offensive odor, and made an article of common traffic and distant transportation. By what process this is done I have no information. In Holland it is thrown into their large urine cisterns, where the urine of their cattle is preserved; and these mixed with rape cake (after the oil has been expressed) and other refuse substances, and carried out in the spring in a liquid state into the fields. In Paris it is dried in some way, and converted into a powder; and this powder, or "poudrette" as it is called, is very extensively used in the vegetable gardens round the city. In the neighborhood of London it is dried, in some way, and packed and transported as a powder. In this vicinity it has been extensively used; and is obtained and transported in a crude state in large covered and water-tight wagons. The city has a superintendent of privies. The citizens, who wish their vaults cleansed apply to him. He contracts with certain individuals at a certain rate per cubic foot. The city likewise contract with certain farmers to be ready with a wagon to receive the contents. The owner pays for the emptying; and I believe the farmer is either paid for the transportation, or has the manure delivered into his wagon free from all expense. The carts are not allowed to enter the city until after ten o'clock in the evening; and obliged to leave it before sunrise. The farmers pay their men something extra for this night labor, over their usual wages. The farmers deposite it in a shallow hole dug in the ground, and mix enough loam with it to absorb all the urine, and make it easy for them to handle it in the spring.

The farmers deem it excellent for grass grounds spread broadcast; and excellent for all vegetables, excepting potatoes, and particularly for vines, squashes, cucumbers, melons, &c., and especially for corn. The objection to its use for potatoes is, that it causes them to run too much to top; whether this is well founded or not I do not know. It has been said by some persons that its effects are very transient, but, as well as I can learn, this opinion is *without foundation*, and its efficacy is as durable as of any manure. Many persons advise to the free intermixture of quick lime with it. This will destroy its offensive qualities; but there is no doubt that, while it destroys the offensive odor, it *also* destroys its efficiency. This I believe is the effect of the intermixture of quick lime with any animal manures. In the country, where it was easy to get access to the back of the privy, I had a moveable shutter, and a large pile of loam always placed near, and during the season when frost and snow did not prevent, was accustomed to throw frequently among the manure enough of the loam to render the deposite inoffensive and absorb all the liquids. By this method I found no difficulty, whenever it was necessary, in removing the contents.

The facility of obtaining this manure in New-York must be immense. Its transportation by water, provided it can be removed in a desiccated state, to the shores of Long-Island, cannot be difficult; and indeed up the Hudson; but I do not know what plan to recommend, to put it into a portable state. I should be very glad to be informed; and you may command any farther information which I can give you.

Respectfully yours, H.

LIMESTONE, *Ground* but *not burned* for agricultural purposes. The following paper, on the use of *Lime Stone, ground* instead of *burned*, for agricultural purposes, was read before the Lyceum of Natural History of New-York, by Wm. Partridge, Esq. The facts therein set forth, are highly important, and are worthy of being tested by those who have limestone on their farms. We ask for this subject, the attention of our readers; and of those who have heretofore tested, or may hereafter test, the theory by experiment, to furnish us a statement of the result for publication. We shall also be much obliged to Mr. Partridge for a continuation of his favors.

TO THE PRESIDENT OF THE LYCEUM OF NATURAL HISTORY.

SIR,—In a conversation I had with you on board a steamboat on the North river, sometime during the summer of 1835, relative to lime, as applied agriculturally, I mentioned the advantage of using it generally in a ground state, as plaister is now used, instead of burning it. You informed me, subsequently, that your farmer had applied some on your land in a state of powder, and found it decidedly beneficial. I then promised to send you my written opinion on the subject, and I now beg leave to fulfil that promise, with an apology for delaying it so many months.

It is well known, to every intelligent agriculturalist, that soils covering limestone rocks are the most productive of any on the globe. I know of but one exception, who

thelime stone is too highly charged with magnesian earth. Our country affords many facts in proof of this assertion. I shall refer to two locations as all sufficient for my purpose. The state of Kentucky has a bed of lime stone running underneath its whole surface, and its natural soil has been produced, and is still producing by the abrasion of those rocks. The superior productive powers of the soil of that State is well known to every intelligent farmer in our extensive country, and is spoken of in terms of admiration by Europeans. That part of Pennsylvania extending from the Lehigh Water Gap to Easton, is a limestone country, and affords another instance of its highly productive powers.

In England, the soil deposited in valleys at the foot of limestone hills, are equally productive. The valley running from the city of Bristol, to the city of Worcester, is of this description, and there is no soil more productive in Great Britain. There are more than twenty spurs of hills bounding that valley, each containing large bodies of limestone rock, and the springs flowing from them, are so charged with limestone, as to incrust every thing lying in them. When the springs issue from the rocks high up the hills, they are much used for irrigating the higher lands, and the beneficial effects are visible to every observer.

Lime, in the state of Chalk, is also used very generally on land near to the Chalk Mountains in England.

The lower part of this State abounds in primitive limestone, and the preceding observations were made with a view to apply the facts to rectify a material error committed, as I conceive, by the farmers in using it on their land. They burn the limestone at considerable expense, and in that state use it for agricultural purposes. I would suggest, as a far better general application, that the limestone be merely ground, and in that state applied to the land. As this may be a new mode of application, I shall endeavor to show wherein it is preferable to the present.

I have been frequently informed by farmers who use burnt lime on their land, that they keep it some months before using, and that then the good effects are not observable the first year. We have only to ascertain what these facts prove, and the whole mystery will be instantly solved. In burning limestone two materials essential to agricultural productiveness are driven off, its water and its carbonic gas. In its natural state it is a carbonated hydrate, when burnt it is caustic lime (oxide of calcium,) made so by the heat driving off its water and carbonic gas. Why does the farmer delay putting it on his land, but for the simple reason that it is too caustic for vegetation. Why does it require to lie in the soil one year before producing any visible fertilizing effect? it is for nothing more than to give it time to return again to a state of carbonated hydrate, the same condition it was in before burning.

I have said that limestone merely ground is the best general mode of applying it to agricultural purposes, there are some exceptions to this rule. When a soil contains "hard roots, dry fibres, or other inert vegetable matter, a strong decomposing action will take place between burnt lime, and the vegetable matter, rendering that which was before comparatively inert, nutrative." Where this is the case, it would be well for the farmer to use one third burnt lime, and two thirds of ground limestone, or any other proportion he may find most efficacious. For stiff heavy soils use the limestone coarsely powdered, for in this state, after being well ploughed and harrowed, so as to mix thoroughly with the soil, it would so lighten it as to enable the sun and air to penetrate to the roots of its vegetation, thereby rendering the future crops more productive. For lighter soils it cannot be ground too fine. Our primitive limestone rocks are peculiarly well calculated for this purpose, as the particles are held together by a loose aggregation, and therefore easily reduced to small pieces, or to a fine powder, at the option of the operator.

The question was asked, by a writer in a late New-York Farmer, "if it be possible that ground limestone can answer the purpose of plaister of Paris." I should say that it can, and it may be, eventually, a better purpose. The fertilizing property of plaister depends mainly, if not altogether on its hydratic property, that is, on its power to attract moisture during the night, and imparting it gradually to the plants during the day. The carbonate of lime possesses the same property in a considerable degree. I have never heard of these two limestones being analized, for the purpose of developing their comparative powers of absorbing moisture from the atmosphere, and their facilities of giving out their moisture at atmospheric temperatures. To have this accurately performed, would be a desideratum with agriculturalists.

We know that soils formed by the abrasion of limestone rocks are of the most fruitful description, we see its productive powers when land is irrigated with water holding lime stone in solution, and with equal effect in the state of Chalk. Science has developed the properties on which this productiveness depend, and if our farmers would suit their appliances scientifically, we should not now be receiving a supply of agricultural products from Europe.

WILLIAM PARTRIDGE.

To the Editors of the New-York Farmer.

GENTLEMEN,—In answer to the article in No. 6 of the Farmer, on the management of Bees, I will give you the result of a long experience on the subject. I consider the plan of Mr. Hebert, French economist, decidedly the best. His hives are composed of several, 10 or 12 parts, of about one and a half inches each in width, placed side by side, and confined by two rods, with keys to hold them together. The following description will probably be more intelligible. Take a common hive and divide the top and sides into 8, 10, 12 or *more* parts of 1½ inches in width, and with a saw cut it into as many parts—then these parts are to be placed together, and confined by pieces of board across two sides, with keys on each end to confine the parts together. The advantage of this hive will be found in the facility with which it can be increased or reduced in size. Its internal arrangement is such, that the bees build their comb in strata, which never exceeds 1½ inch in thickness, to correspond very nearly with these divisions of the hive, by which the hive may be divided, and additional parts put to each, thereby making *two* swarms, or the swarm may be enlarged to almost any extent, or you may, at your pleasure, take one or two parts from the side, or centre, of the hive, with as many strata of comb for use, with very little injury to the remaining part of the comb; replacing an equal, or any other number of parts of the hive.

By this process very few bees are destroyed, it is therefore entitled to consideration with every humane and reasonable person; notwithstanding the writer referred to, Mr. G. L. Smartt, considers it no inhumanity to destroy this useful little insect; or not more so than to destroy beavers, or cats for their fur, or fish for manure. This is by no means a fair comparison, as those can only be useful when dead, and therefore the order of things justifies the act, whereas bees *can easily* be preserved, and will, with proper care produce the *value of a good beaver skin every year*. With this hive, which opens like a book, you may take from it any proportion of its contents you please, and preserve the bees for further use.—When you desire to take away a part of the honey, separate the hive, and so that part

in which the queen is attach the new part, or parts, of the hive, and leave the part to be removed exposed to the light for a short time and the bees will soon seek the queen, leaving the part to be removed nearly deserted, and in a day or two, they will be quietly at work in filling the vacant part. This operation should always be performed two months before the close of the working season. You may also change bees from one hive to another if you desire, by taking off the outside of each and putting the hives together, closing up the entrance and drumming on that in which the bees are, which will drive them into the empty hive. Their progress can be readily ascertained by listening at the hive.

These operations to be performed after sunset, or before sunrise.

A Close Observer of Bees.

TROPICAL FIBROUS PLANTS.

It is with pleasure we lay before the readers of the New-York Farmer the following communication from Dr. Perrine, late U. S. Consul at Campeche. His long silence made us apprehensive that he might have fallen a victim to his zealous and continued efforts to introduce into this country the fibrous and unestimated plants of southern Mexico. His devotion and sacrifices appear to throw around the object he has in view a sacredness that renders further "neglect and delay" unhallowed. We hope and trust, that ere long his anticipations will be fully realized, as they long since deserved.

Dr. Perrine's object is to acclimate in Florida the fibrous plants of southern Mexico. These plants produce materials for ropes and cordage; but from the miserable culture and rude manufacture in that country, Dr. P. has been led to infer a vast source of national wealth, if introduced into the southern section of the Union. He accordingly has had the subject brought before Congress several times; but the momentous concerns of party politics have been too engrossing for him to obtain any positive action. State Legislators, and Agricultural and other associations, in various parts of the country, have strongly recommended the undertaking. Dr. P. has devoted money, and much of his time, and made sacrifices of health, in procuring plants and specimens of the hemp, and in distributing them in various parts of the country. For acclimating the valuable plants of the globe in our extended country, it has been suggested that there should be three national gardens,—one in the Northern, one in the Middle, and one in the most Southern States. To aid in the establishment of a national experimental garden in Florida has been Dr. P.'s request of the General Government. A grant of a tract of the unoccupied, and almost valueless, portion of Florida, the assistance of a Government vessel in importing the plants; and an appropriation of a small amount of money, would accomplish the object, and add vastly to individual and national prosperity; and it is to be hoped that Congress will at its ensuing session give this subject that attention to which it is so eminently entitled.

We shall, at all times, be ready to aid Dr Perrine, and others who may take an interest in the subject, through the columns of our publications, or by any other means in our power.

To the Editor of the New-York Farmer.

Model Farm of the Agricultural So. of La., Parish of St. James, about 60 miles above New-Orleans, 13th April 1837, 8 o'clock, P. M.

Dear Sir:—After ten days confinement to bed by a fresh attack of my ancient disease of the liver, I have this moment risen to attempt a communication to you. After waiting at Campeche in vain the arrival of my successor in office, during eighteen months, sustained by the lingering hope that one of our naval vessels would call to receive and transport to Florida a cargo of at least the fibrous leaved plants of Yucatan, I became convinced that our government would not aid, either my arduous endeavors to promote the utility of American Consulates in Mexico, or my still more persevering exertions to acclimate tropical plants in the United States. Hence, on the 28th of January I embarked in the schr. Pocahontas, *with the Archives of the Consulate*; on the 8th of February the schr. struck and stuck on a mud bank, off the S. W. Pass of the Mississipi; and on the 11th I alone arrived at New-Orleans. During the ensuing month it rained more than half the time, day and night, and the streets were literally miry with mud, yet so rapid was the evaporation in the intervals that two to three or four sunny days at fartherest sufficed to fill the air with dust.

My health was so bad on my departure from Campeche that the master of the vessel expressed to the owner his apprehensions that I would not live to reach New-Orleans, and the bad weather of New-Orleans was certainly not calculated to improve my condition; yet such was the magical effect of breathing once more the air of "freedoms only home," that within the month my weight considerably increased, and my appearance was so much bettered as to excite the remarks of my friends. During this period there were two meetings of the Agricultural Society, at which I assisted, and exhibited specimens of the plants and products of Yucatan. The results were highly satisfactory to me. Two resolutions introduced by the worthy President, Ex-Governor Roman, were unanimously passed, one requesting the publication of my correspondence and the other my agency in obtaining plants at the expense of the Society. Several members of the Society were also members of the Legislature, and one of them Dr. Brashear, I believe, on the 11th February, introduced a resolution in my favor which was unanimously passed by both houses of the Legislature. This resolution with an explanatory preface, instructs the Senators and requests the Representatives of La. in Congress "to procure the passage of said Bill into a law under such conditions as may comport with the public good." I cannot conceive what possible opposition can be made to the law, especially since Gen. Scott has officially declared that the granting of Florida lands to volunteers would be a *fraud*. Indeed I have never anticipated any rational objections to the Bill; but what I have suffered by so long, and what I still fear, is *neglect* and *delay*. There is not probably another man in the United States who would accept the land as a gift, if he were obliged to occupy it, particularly after the unfavorable impressions of soil and climate created by the late Seminole war; but I still persist in my opinion that the tropical temperature of the Southern district of Florida will counterbalance the defects of its surface: and if the facts and arguments I can offer, with a township of miry marshes and arid sands, will not suffice to attract associates and capital, to plant and populate it, why I shall continue on hereafter, as I have gone on ten years heretofore, *unaided and alone*, as I am determined to locate my family there for life.

14th—11 A. M. The exertion of writing the foregoing, cost me a bad night and morning, yet it is so painful to be lying in bed, preyed upon by pestering thoughts, that I have got up again to continue this letter. It was agreed that I should proceed to this Farm, to ascertain the condition of the tropical plants, which I had sent to the Agricultural Society during the last four years; and on the 19th March I left New-Orleans and arrived here the same night. I found in the *List* signed by the manager, C. Dumont, last fall, the following *names*. Hæmatoxylon Campechanum 2 plants, Piscidia Erythrina, 5 plants, Crescentia cujete, 1, C. pepino, 1, Melia sempervirens, several (plusieurs) Ficus indica, 4, Agaves 9, Bromelia ananas, 2, B. karatta, 2. I went into the garden and found a frame shed about 12 feet broad, 15 feet long, and 7 feet high on one side, and nine on the other. A single layer of thin cypress boards constitues the weather boarding and roofing. On the south side

there are three rows of small window glass extending the whole length, and on the west side a similar arrangement about half the breadth not exceeding the surface of a common window. You may infer from this description how little protection from cold could be afforded to plants during the excessively cold days and nights which visit Louisiana every winter. Indeed, it has become here a general opinion that both the winter and summer of this State have been gradually getting colder during many years. Notwithstanding all these discouraging circumstances, I found that all the woody plants had continued to increase in height and diameter during two or three years. The Logwood, the Habi, (P. E. Campeche Teak) the 2 species of Calabash tree (C c and p.) had grown to a very encouraging degree, but imagine my regret when I found that the branches and trunks of each were now dead! These had all been left in shallow boxes of earth, had outgrown the capacity for nourishing them, and this fact alone would account for their perishing independently of other neglect, or of cold. It nevertheless appears that the *roots* are still alive, and that if proper care be taken of them, their acclimation will be ensured.

The Ficus indica planted on the border of the central path of the garden is also killed in the trunk, and has been cut off at the level of the ground. The roots however appear to be vigorous, and will hereafter bear so great a proportion to the stems as to sustain the heat and life of the latter. Plants like human beings must pay the price of acclamation. They must suffer from sickness during their seasoning to maintain their health afterwards in their new residence. Many *individuals*, both of the vegetable and animal race, must even die during the process of acclamation in their adopted or adoptive country, but the *species* of both will be preserved. But the Meliasempervisens has exceeded my expectations. Although the seeds had been planted very close in a shallow box at least 50 within 25 square inches, so that they sprung up as thick as wheat, the height of 18 to 30 inches, and had been left in the open air all winter entirely neglected, yet the stems on my arrival, the 20th of March, were already putting out leaves! I insisted in having them immediately transplanted to the border along the fence of the garden; without my knowledge half their lengths were chopped off; three weeks of dry weather succeeded, and yet they did not loose a single leaf! It has now been raining the greater part of the last four days and nights, and at this moment I went to the garden and ascertained that not a single plant has been damaged in any way. I doubt not that it will soon overrun all our South-western and Southern States like its brother the Pride of China, (M. Azedarach) under its Campeche name of *Paraiso* or Paradise tree. As this is the only one of the aforesaid tropical trees which has been here produced from the seed, does it not afford encouragement to believe that such of the others as can be propagated by seed might have succeeded as well. I brought with me a considerable quantity of the seeds of the Meliasempervisens, and have distributed many in New-Orleans, and to planters up the river, and confidently anticipate its extensive propagation.

But how unfortunate it is for the first propagators of plants, that various very valuable species cannot be reproduced by seeds. He only who like myself, has been many years endeavoring to transport, transplant, and transacclimate living plants, can form an adequate conception of the difficulties and disappointments which lie in his way. Although the Fecus indica appears to be disseminated by birds, yet I have not ascertained that man has been able to reproduce it from the minute seeds of its minute fruit. The Crescentia eugete, or Calabash tree has seeds enough in the pulp of the shell, so useful for domestic utensils, yet it is always propagated in Yucatan, by shoots from its roots. Even admitting that when these trees get acclimated in a civilized country, the propagation by seed can be affected; very few persons would have patience enough, to wait so long as would be required in that way to re-produce their useful trees. It is hence, especially important, to select the best possible location for living plants, imported from tropical climates. That the damage done to the Logwood, and the Campechy Teak,* and the wild Fig, and the Calabash tree, does not discourage me, results from the fact, that these living plants sent from Campeachy, have in the model farm a bad location, both as regards exposure and soil.

This Logwood is a *Swamptree*, and should have been planted here in the cypress swamps. The Habi,† is a native of arid sandy and limestone soils, and should have been planted in the Pine woods. Both being forest trees, should have the protection of forests at least, during the process of their acclimation. The wild Fig appears to delight in the most sterile soils, and will flourish in the crevices of barren rocks. Indeed it will take root in the cracks of stone walls and fences, and its swelling roots, will at the same time, force apart and fasten portions of the stony mass in which they grow. In the suburbs of Campeche, the lots are surrounded by walls which are made rather of mortar and stone, than of stone and mortar, but the latter is so excellent, that it becomes as hard as the lime stones themselves, which are laid on it. It is hence of course easy to form piliars and columns resembling solid pieces of stone or marble. On one side of a gate way, there was a stout square pillar, on the top of which was a pyramidal head with a groove at the base. In this groove a young wild fig was growing, and its roots had removed the pyramidal summit at least a foot beyond the centre of gravity of its base! and there they held it fast and firm!! and thus it has remained several years!!! Sometimes I have seen it growing out of the top of a palm tree! and at others I have seen the top of a palm tree *apparently* growing out of a wild fig tree!! The explanation is easy. The minature fruit, about the size of a raspberry, is voided by the birds on wall on other trees, and there adheres and grows, extracting mostly its nutriment from the air. When germinated on the top of a palm tree, it sends down aerial roots, which twine round the trunk of the palm as they gradually descend to the ground, so as to cover finally the whole trunk, and appear to convert it into a wild fig tree! When growing by itself after it has reached so great a size that its branches are disproportionately large to its roots, it sends down aerial roots from the lower sides of its heaviest branches in a direct line to the earth. This process being repeated, and these downward shoots being rooted, they both serve as props to support the tree against the unruly winds, and as pumps to suck up nourishment from the unwilling earth. In the course of ages it thus becomes a forest; and such is the history of the celebrated Banyan tree of the East Indies. But I am running away from my principal subject, and my sickness must plead my excuse for my desultory style. At all events, you will perceive that the wet muddy soil of the banks of the Mississippi is not naturally adopted to the growth of the Fecus indica, and much less to its acclimation.

From what I have written you will perceive that I am decidedly of opinion that the pinewoods of Louisiana are decidely superior to its river banks for the acclimation of tropical plants. Indeed I may declare that as the intermediate domestication of tropical plants is essential to promote the gradual acclimation of tropical plants in all the S.

---

*By the by, when I use the term Campeachy Teak, I don't mean to express that it is a species of the Tectona, but adopt the language of the sailors, who thereby convey the idea that it is an equivalent of the Teak-wood, of the East Indies, and much superior in durability, even to our live oak. In Jamacia it is said to be called Jamacia *dogwood*, a still more unappropriate name.

† The Campeachy name of the Piscidia erythrina, or rather Pampeacheana, and which I shall use hereafter instead of Campeachy Teak.

sand. S. W. States, so in these states, the intermediate transplantation of tropical plants in their pinewoods, is highly important to promote their success in the other sections of the same states.

The very important fact should also be always kept in mind, that independently of the protection of the evergreen woods, nearly all valuable plants of the tropics, yet to be introduced, *demand the most sterile soil.* Mr. McCarty of New-Orleans, showed me a plant in his garden, which he had brought from the pinewoods, where it grows rapidly into a beautiful tree, but which remained in a stunted state, under his fostering care. He attributed its failure to the wetness and coldness of the soil alone, but I would add to its excessive richness, because you know that all the alluvial banks of the Mississippi are loaded with vegetable and animal remains The soil on the banks is of course exceedingly fertile for such marsh plants as delight in decomposing, or organized matter, and hence the Sugar Cane could not find a better soil, but even for this the subsoil is too much charged with water. You know of course that the dead are buried above the earth, on account of the fresh water below it which is spread all over a vast extent of the State like an underground sea. As the process of living vegetation is never suspended in evergreens, its activity in every season, generates a notable degree of heat by means of which they elevate the temperature of the freezing winds, whose force they, at the same time, mechanically arrest and thus afford a double protection to the other plants which seek their shelter.

When I began, I did not expect to write three pages, and yet I find myself in the middle of the fourth page, without having said a word on my most favorite topic—*fibrous leaved plants.*

To be Continued.

From the Quarterly Journal of Agriculture.

STUDIES IN THE SCIENCE AND PRACTICE OF AGRICULTURE, AS CONNECTED WITH PHYSICS.

Concluded.

In the birch he both discovered that the sugar in the sap is not cane but grape sugar, and also that the sap actually flows progressively from the root to the summit, the flow varying with exterior physical causes, which serve to modify it. The walnut, the sycamore, and the maple, did not in February show any flow of sap; and M. Biot took advantage of their state of rest to examine their interior by having a number of trees of these species cut down on purpose. It was remarkable that the interior of the birch trees was found to be without moisture, and even quite dry, while the walnut and sycamore trees were distinctly soaked (*imbibe*) with moisture from the inner surface of the bark to near the central pit. On being pressed, also, the moisture could be squeezed out, and the oozing was most distinct between each of the circles constituting the annual rings of wood. All this was observed while there was no flow from the reeds into the phials except in the birch.

The walnut trees began to give a few drops about the 11th of February, in the phials placed about seven inches from the ground. The sap thus collected was not fermentable grape-sugar, like that of the birch, but crystallizable cane-sugar, for it gave a strong polarization towards the right, while that of the birch was towards the left. The run into this lower phial, after continuing abundant for several days, began to diminish towards the end of February, and at length it ceased altogether. The phial immediately above it, about a yard from the ground, also gave a very small quantity, while all the other phials on the same tree, to the number of eighteen, remained quite dry.

What appeared most singular was, that this individual walnut-tree was known to be rather a late one, while another very large one, at a hundred paces distant, known to be about fifteen days earlier, gave no trace of sap in fifteen phials which M. Biot had attached to it. He began, accordingly, to suppose that this early walnut, as well as the sycamores and maples, had been pierced too late, and that the spring flow of their sap was over; or rather that, in the then state of the atmosphere, they evaporated as much sap as they received from their roots. The flow, of course, would not again take place unless the evaporation should be checked by the occurrence of cold weather. This actually did occur, the thermometer falling to one degree below zero, followed by a sharp dry frost, when the maple, sycamore, and walnut trees began to flow, continuing thus till the 16th of March, when the flow began to diminish. M. Biot says, the effect of the cold on the birch tree was very different, but gives no details.

M. Biot distinctly proved that the sap near the root is less dense, and less rich in saccharine matter, than higher up in the trunk or branches, a fact previously stated by Mr. T. A. Knight, but explained by him to arise from the sap in spring mingling with the condensed nutriment deposited in the roots the preceding autumn. M. Biot thinks differently, believing it to arise from the watery portion of the sap being in its ascent either diffused through the cellular substance, or evaporated, or both; and he proved, that though the sap collected in the phials at different heights from the same tree was more dense and rich the higher it was procured, the portions of wood and bark containing the sap gave exactly the same proportions of saccharine or nutritive matter at all heights. M. Biot farther discovered, that the swelling and opening buds (at least of the lilac) have the power of decomposing the sugar of the sap, and of appropriating the carbon contained in it, in the same way as he proved the seed-leaves of corn to decompose the feculla contained in the grain, and change its dextrine into the sugar which nourishes them.

Observations on the Growth and Nutrition of Corn.—M. Biot, finding that the slow growth of trees was not so well adapted to some of his experiments as the quick growth of annual plants, made choice of wheat and rye for observation. It has long been known to physiologists, that, in the process of germination, the farinaceous matter (now known to consist of globules of dextrine in their envelopes) is changed into sugar, which serves for the nourishment of the young plant up to the period when its seed-leaves and primary roots make their appearance. But when the supply of nourishment contained in the seed has been exhausted, the young plant must depend on other sources to maintain its growth; and hitherto it had not been experimentally determined what these other sources of nourishment really are, what modifications they undergo in the various parts of the plant, nor in what manner the different portions are transmitted to the nascent seed in the ear to nourish and mature it.

It is important, in all such inquiries, to distinguish the solid parts, which constitute the frame-work of the plant, from juices or soluble materials, which, constantly formed, destroyed, and renewed, are carried into all the vegetable texture for its nourishment. The first, or solid materials, can be examined by chemical analysis after a plant is dead and dried, but it is different with the other parts or liquids examined by M. Biot.

Rye.—He made his first observations, the 3d of May, on plants of rye already in the ear, but not yet in bloom, the period of blooming being still at some distance. He treated the roots, the stems, and the ears, each separately, with water, submitting them to the proofs of circular polarization, and then he treated the watery extracts, condensed but not to dryness, with spirits of wine; submitting to the proofs of polarization the precipitates as well as the substances not precipitated from the liquids. In a word, he tried, by adding to each the yeast of beer, whether they were susceptible of fermentation, again examining whether their rotation was diminished, increased, or changed in direction.

The matter from the roots gave traces of an exceedingly feeble rotation towards the left, but when it was observed, M. Biot had not discovered that a mixture of cane and grape-sugar would, in a manner, neutralize the right and left rotation. The stem indicated a proportion of grape-sugar turning to the left, and of cane-sugar turning to the right, as well as gum precipitated by spirits of wine, and turning to the left with a force similar to gum. Twelve days afterwards, the 15th of May, while the ear was still far from blooming, the stem presented a mixture of the three substances, but with a considerably larger proportion of cane-sugar, proved by rotation towards the right before being fermented.

The matter from the ear on the 3d of May, and before blooming, gave very different results from the matter of the stem; for M. Biot could not detect it in any sugar, either grape or cane, but only sugar of starch, on which fermentation enfeebled the circular power without changing its direction. The precipitates also formed by spirits of wine, instead of having the characters of gum as those of the stem, showed only flakes similar to the envelopes of dextrine in the mature grain. These results accord with the ob

servations of M. Raspail, who ascertained that, before blooming, the grains of fecula in corn are extremely small, and that their soluble matter is gradually absorbed by the seed organ (*ovarium,*) which it serves to nourish. M. Biot, as yet, found no dextrine.

After blooming, the composition of the ear was found to be very different. The 15th of June, the young grains of rye taken from the ear, already contained globules of fecula containing dextrine, along with some sugar of starch, but no trace of cane nor grape sugar. It follows, M. Biot infers, that the cane-sugar, the grape-sugar, the gum, which are contained in the stem and leaves of rye, are changed in their nature on passing the neck of the ear (*le collet des epis*), supplying materials for nourishing the young grain, which forms it into dextrine and its envelopes.

Wheat.—In his observations on wheat, M. Biot was more particular than in the case of the rye to keep separate the different parts of the plant, and, in consequence, discovered differences of composition, which he could not have beforehand imagined.

The 19th of May, he took young plants of wheat whose ears had not issued from their sheath or hose, he carefully separated the sheathing leaves from the cylindrical stem, and treated the two separately with water, alcohol, and fermentation.—The stems like those of rye presented three carbonaceous substances, namely, grape sugar, cane-sugar, and gum; but subsequent observation showed, that the proportions of these three substances varied much during the progress of vegetation. The 20th of May, the cane-sugar evidently predominated; but the 4th of June, when the ears began to bloom, the stems gave a rotation towards the left, and afterwards preserved this rotation, showing that the cane-sugar had become much less abundant *in the stem*.

The leaves gave very different results; for though they contained three substances the cane-sugar was proportionably much greater than the grape sugar, the contrary of what was found in the stem; and instead of the third substance being gum turning to the left, it produced a rotation towards the right, appearing in fact to be dextrine. The leaves of wheat continue to preserve the same composition till they begin to grow yellow and wither, an effect that uniformly commences at the tip of a leaf, and on the leaf nearest the root; but after this, scarcely a trace of sugar or dextrine can be found in them, all, it would appear, having gradually passed into the stem to nourish the ear, in the same way as the carbonaceous materials of the leaves of trees descend under the layers of the inner bark and pulp wood (*alburnum,*) to nourish the young cylinder of wood and bark, which, similar to a hollow stem of wheat, is annually formed, and moulds itself upon the old frame-work of the wood.

In wheat, therefore, as well as in rye, the base of the stems can derive nourishment partly from the leaves and partly from the soil, and the summit of the stem can draw nourishment from its own leaves, as well as suck up the sap from below; but the ear, when it issues from the sheath appears to exercise on the proper juices of the top of the plant a powerful absorption, causing them to rise rapidly in proportion as they are furnished by the base of the stem.

The 4th June, M. Biot took plants of wheat in full bloom, and depriving the stems of their leaves, parted them into halves, the tops in one parcel and the basis in another. The extracts from the base, when examined by polarization, indicated almost twice as much sugar as the extracts of the tops of equal density; and at the same time he found, that the saccharine principles abounded in the ears of the wheat, in the form of cane-sugar and sugar of starch, together with a substance similar to, if not identical with, dextrine.

Ripening of Corn, and Ploughing of Green Crops for Manure.—In proportion, it has just been shown, as the fecundated ear increases in magnitude, the leaves near the root begin to grow yellow and dry in consequence of the stem drawing from them the carbonaceous materials which they contain. As the growth advances, the base of the stem becomes yellow and dry in its turn, while the upper part remains green, and continues to nourish the ear.

These beautiful researches of M. Biot afford interesting expanations of several agricultural practices hitherto not well understood, at least in a scientific point of view. For example, when the base of the stem begins to become yellow and dry, if the corn be then cut down, though the grain is not ripe, it will continue to be nourished at the expense of the green matter in the upper part of the stem, almost, if not quite as well, as if it had remained uncut, and will thus ripen well; while having been thus cut down early, much loss from shaking is prevented, besides the chance of loss by *lodging* from heavy rain and wind. M. Biot's experiments, from his well-known high character for rigid accuracy, are therefore well calculated to give farmers confidence in cutting down their corn, as soon as the lower leaves and the lower part of the stems are yellow and dry, though the upper parts be green.*

*It is a good practice to cut down every kind of grain before it is fully ripe in the grain or the straw, and that for the reasons just enumerated in the text. But, as M. Biot's observations and common practice do not exactly agree as to the symptoms which determine the time of cutting, it is as well to notice the difference. In a *fine season*, farmers cut down when they find the neck of the straw immediately under the ear free of juice, when twisted round between the finger and thumb; and do not wait until "the lower part of the stems are yellow and dry," because they find in such a season the straw *to die from the ear downwards*. This fact, we conceive, does not miligate against M. Biot's *theory*, for as the absorbing power of the ear at the top of the stem is always powerful, it must be the more powerful the nearer the ear approaches maturity, and, of course, the part of the stem nearest the ear should first become dry. In a bad season, on the other hand, the lower part of the stem first becomes yellow and dry, after which, of course the crop is not allowed to stand; for, in such a season, the ear never becomes mature, having, of course, less absorptive power, whilst the vitality of the root is early destroyed by the combined effects of bad weather and ungenial state of the soil. —EDITOR.

Again, as the leaves and stems of plants while green, contain sugar and other carbonaceous materials for nourishing the seeds and bringing them to maturity, it follows that, if they are in this state ploughed down into the soil, they must greatly enrich it with all the products ready prepared for the nourishment of plants.

It has been proved, indeed, by other experiments previous to those of M. Biot, that the leaves and all the green parts of plants, decompose the carbonic acid gas of the air, appropriating the carbon and setting free the oxygen; and hence it has been inferred, that the carbon thus derived contributes to form their mass of sugar and gum, additional to the sap absorbed from the soil by their roots. This view is corroborated by the difference which M. Biot has shown between the composition of the leaves of wheat and the stem, which is more especially supplied from the soil. If, then, a portion of the solid frame-work of plants is derived from the air in the form of carbon, the ploughing down of green crops for the purposes of manure, gives to the soil more than the plants, while growing, had extracted from it.

We may well conclude with M. Biot that "every positive determination in science is susceptible of progress and of useful application, though these may be distant. A microscopical observation, or an optical property, which at first appears only curious and abstract, may thus in time become important to agriculturists and manufacturers."

From the Farmer and Gardener.

CULTURE OF RUTA BAGA.

Mr. James M. Lawton, in a communication in the Cultivator, gives the following rules for the preparation of the soil, and the culture of the Ruta Baga. The conclusions at which he arrives are the result of many years experience and close observation.

1. The land, he says properly adapted to the nature of the plant, is a strong loam.

2. The land should be ploughed early in the spring, in order that the sward, if it have one, may rot by the 10th of June.

3. The land should be made perfectly mellow and smooth, and a good coat of manure, that is fine, say sheep or barn manure should be put on.

4. Throw the land into ridges 24 inches apart, with a small horse plough.

5. Roll down the ridges by a light roller, or other instrument; make a light furrow, say an inch deep, drill in the seed on or about the 15th of June: the seed should

be 10 inches apart in the drill, and when the plants come up, all but one plant should be pulled up.

6. Dress the plants three times in a season, that is, keep the weeds out, and the earth stirred about the plants; as they are first breaking the ground they must be powdered with plaster of Paris,—and twice afterwards also—when they receive the two last hoeings.

Mr. Lawton further adds, that he has found the above rules, when closely followed, never to fail in producing a good crop; that last year he raised from 90 rods, that is from half an acre and 10 perches of land, 605 bushels of sound, close grained Ruta baga turnips, on land a distance from the house and barn, on which, never to his knowledge, a spoonful of manure had been placed until within a few days of the time he put the seed in the ground. This product was equal to 1075½ bushels per acre The success of Mr. Lawton should surely serve to stimulate every farmer and planter to at least appropriate an acre or two to the culture of this excellent and hardy root. Unlike the other members of the turnip family, it preserve through the hardest winter in the field, if the precaution be taken to throw a furrow up against the rows just as the hard frosts set in, and may be drawn thence for use, as occasion may suit. They are also more firm in meat, and more nutritious than any other turnip. Horses and cows fed upon them do not scour as when kept on the other varieties.

SHORT HORNED DURHAM BULL "ESSEX."

We saw on Saturday last, the fine Durham Bull Essex, raised by Gorham Parsons, Esq., of Brighton, Massachusetts, but now the property of Col. Ralph Watson, of East Windsor, Connecticut.

The following is a description of him with his pedigree.

The thorough bred Durham improved short horn BULL, by sire and dam is from the most celebrated stock ever imported from England—was bred with great care by Gorham Parsons, Esq., of Brighton, Mass. He is a beautiful red roan, and red and white speckled, red neck, white face, upright short and small horns, red and white mottled legs, white throat, red hams, fine straight legs, fine bone, and altogether a very superior animal, was dropped in Byfield, on Fatherland farm, May 10th, 1833, and weighed May 11th, 1837, in ordinary flesh, 1578 lbs. His form, muscle, bone, &c., are such as Farmers, Darymen and Butchers admire and consider essential to make a perfect and profitable animal.

PEDIGREE.

Essex was got by Young Admiral from old Violet, old Violet was from the imported cow Bountiful, that took the first premium of 75 dollars at the Cattle Show in Brighton, in 1817, her sire Cornelius Coolage of Boston celebrated Bull Celebs, which he imported from England to improve the stock of cattle in the county of Essex, Young Admiral was got by Admiral, a fine bull sent from England to Mass. by Admiral Coffin, to improve the breed of cattle in his native State, Young Admirals dam was the fine full blood Durham Cow Rose.

RALPH WATSON.

East Windsor, Conn. May 22d, 1837.

POTATOES.—In Prussia the Potatoe is cultivated with peculiar success;—as the stalk grows, the earth is heaped up, leaving only three leaves at the top; roots are thus greatly increased, and the produce is said to be astonishing.

From the Maine Farmer.

VALUABLE IMPROVEMENT.

PITTS' GRAIN SEPARATOR AND CLEANSER.

Every thing which shall facilitate the labor of the Farmer and enable him to do more at a less expense, we look upon as a valuable improvement, and never refrain from giving as early notice of it to our readers as possible, that they may put themselves in a way to profit by it, or at any rate, not remain in ignorance of it.

In accordance with this practice we would ask the attention of our readers to the communication below, respecting a machine, invented by the Messrs. Pitts', of Winthrop, for threshing, separating the grain from the straw and foul stuff, and winnowing it in a most clean and perfect manner.

The Inventors are favorably known to the public by several important improvements which they have made in machinery of different kinds. It will be recollected that a premium has been awarded them by the Kennebec Agricultural Society for their machine for threshing and cleansing grain. Since then they have been busily engaged in improving and perfecting their invention, until at length they have produced one which we think is all that can be asked for. The machine is made up of the thresher, which is of the usual form,—a belt so constructed as to separate the grain from the straw, and to pass the straw forward and throw it off of the machine,—a winnower or fanner, with its sieves of different degrees of fineness to separate foul seeds from the wheat,—a reservoir for the cleaned grain, and another for the light stuff or tailings. An apparatus is attached if desired, for returning the last the winnower again for a second cleansing. The fan is so constructed that the wind may be regulated so as to give any quantity, from a *zephyr* to a *tornado*. The machine is simple in its construction, and occupies a space about eight feet long, three and a half high and two wide, and the expense is probably from sixty to seventy-five dollars according to the style and finish.—This includes the threshing machine.

Having seen the machine in operation, and examined every part of it; and having critically watched every movement with a view to detect any faults which might render it unavailable, we are constrained to say that we could find nothing which could lead us to doubt its utility, and we therefore embrace the opportunity to advise our friends of the facts, in order that they may be aware of the existence of so important an auxiliary in the wheat business and govern themselves accordingly.

This machine will be exceedingly well adapted to the practice of the Southern and Western States where they are in the habit of threshing grain in the open air, and as it can be done without the loss of a kernel.

IMPORTANT IMPROVEMENT IN THRESHING AND CLEANSING GRAIN.

An improvement in the mode of threshing and cleansing Grain has been effected by Messsrs. J. A. & H. A. Pitts, of Winthrop, Maine, which we think exceeeds any thing that we have heretofore seen or heard of.—The improvement consists in adding apparatus of a simple kind to the common threshing machine whereby the straw is separated from the grain and the grain winnowed from the chaff and foul seeds in a complete and expeditious manner, all by one operation of the machine. We had the pleasure of witnessing the operation of this machine on the 8th. It was propelled by one horse.

The Grain was threshed perfectly clean, and winnowed or cleaned far better than we have ever seen it by any common hand winnowing machine. No grain was found passing over with the straw, or scattered out from any part where it should not. We congratulate the Agricultural commmunity in having the prospect of so efficient an aid to the wheat or grain culture, and cheerfully recommend it to the attention of the farmers of the United States as a valuable improvement.

PELEG BENSON, Jr.	BENJAMIN STEVENS,
SAM'L BENJAMIN,	M. B. SEARS,
PELEG BARKER,	A. S. RICHMOND,
DANIEL CARR,	WM. HENRY LORD,
DAVID STANLEY,	SAM'L. WOOD, JR.
G. A. BENSON,	JOS. A. MELCALF.

The following remarks we copy from the Augusta Banner. It seems that we are not alone in the opinions which we have expressed in regard to the Messrs. Pitts' Separator.

THESHING, SEPARATING AND WINNOWING MACHINE.—I was very much gratified while at Winthrop, in beholding the operation of a Machine bearing the above title. It is the invention of the Messrs. PITTS' of Winthrop, who are the Patentees. These gentlemen are well known as the inventors of several instruments, one of which is the *Stone Cutter*, which bids fair to be of much advantage in hewing stone. The Threshing, Separating and Winnowing Machine will probably be of as much real utility as any of their inventions. As yet, it has not been introduced finally to the public, but must claim the approbation of popular opinion. It performs with the utmost ease what by many has been considered an impossibility, completing effectually the different operations of threshing out the grain, seperating it from the straw, and winnowing it from the chaff. As such it is at once perceived, that it will not only be highly useful, but must be exceedingly valuable to farmers. Its intrinsic excellencies are its perfect simplicity, its great power, the great quantity of labor it performs in a limited period of time, and the

velocity and thoroughness with which it prepares the grain for the operation of the mill. It combines every desirable principle for the purposes for which it is designed and commends itself at once to the notice of grain growers. It can be moved either by horse power, water power or steam power. Further particulars will readily be furnished on application to Capt. John A. Pitts, Winthrop, Maine.

D. J. M.

THE CROPS IN INDIANA.—The following extract is from the Madison (Indiana) Courier & Enquirer of 6th May, a well conducted journal, of which we have No. 6.—We welcome it to our table, and wish its publishers all success.

Since our last went to press, we have conversed with several farmers, who inform us that the wheat crops, although at present suffering for want of rain, look better than they did this time last year, and that unless injured in its growth by a continuance of the present unfavorable weather, promise a fair yield. The present prospect for oats is rather unfavorable. Although the ground generally has for some time been prepared, but few farmers have ventured to plant corn, and those few, it is conjectured, will be compelled to re-plant, the seed having rotted in the ground. It is high time this invaluable grain was in the ground, and we sincerely hope that we may soon have sufficient rain to prepare the earth to receive it.

Vegetables of every kind are exceedingly backward, owing to the same cause.—This, however, is no news to our market-going friends.

There is at present every prospect of an abundance of fruit of every kind. The dry weather has been rather favorable to them than otherwise. A few of the peaches have been destroyed, but more than a sufficient quantity still remain.

We had scarcely finished writing the above paragraph late last evening, when we were blessed with a refreshing shower.

CITY AND COUNTRY LIFE.

We copy the following article from the "New-York Daily Express" because there is *much truth in it*. It is too true that agriculture is not *justly* estimated—Parents who have accumulated a fortune by cultivating the soil, prefer to make any thing but *farmers* of their sons. This should not be so. *Educate them well*, and then use all proper means to induce them to cultivate the soil—with education and such habits they are prepared for any station to which they may be called in the service of their country. They know the *value* of liberty, property, and independence, and will always be safe agents to employ to discharge public trusts.

From the New-York Daily Express.

LIFE IN THE COUNTRY AND CITY.

The poets of old Rome sang in loud strains the praises of the country, and happy was that Roman who had his farm, his garden, or villa, around the base of Soracte, or on the shores of the beautiful Baiae.—Cicero was a farmer, as well as a statesman and an orator. All the illustrious men of Rome delighted in quitting the Forum, the Campus Martius, and the walls of "the Mother of Empires," to pass the summer solstice in the cool groves, with nymphs and satyrs,—or, in the season of the harvest, to rejoice with the bacchanals, and to see them frolic in the games. Even so in England, and the Continent of Europe now. London, the mistress of modern times, as Rome was of the olden, is deserted of much of its population in summer and autumn. The possession of land is the passport to gentility in Europe. The great Metternich boasts of his famous vineyard on the Rhine. A landed estate is the first aim of nobility in England. Titles, there come from land. Hence agriculture is the work of science and of art, and as much knowledge and art are demanded to cultivate and to lay out the park, to adorn it with trees and with fountains, as to fill the gallery, or the studio, or the niche of the palace.

How happens it then that in *our part* of our country—it is not so in the South,—that agriculture is avoided, as much as it can well be,—that the son flies off from the fields to the counter, the daughter to the city or the factory—all panting to exchange the free glorious air of Heaven for the dusty, noisy, crowded thoroughfare, say of Wall-street, Pearl-street, or the Bowery? Whence comes the passion for cities, and of herding together? Whence that madness that makes the workingman cherish the cellar or the garret, for himself and his children, when he can live better and wealthier even on the borders of the wilderness, with sky enough over his head, earth enough under his feet,—with the green grass to trample over, and the proud trees for a shade?

There is a belief in our country,—it exists no where else,—that agriculture is a vulgar occupation, demanding no taste, no genius, and nothing but the turning of the sod, and the levelling of the trees. How false is this. Why, the Vatican, in its way, is not more beautiful,—with the choice works of ancient and modern art in it,—a Belvidere Apollo here, and a Raphael fresco there,—than an English park in *its* way,—where a landscape is *worked out* as a picture has been,—a tree shaped to fit this view, and a hedge designed to aid that,—now perhaps a fountain, or a waterfall, anon a herd of deer,—it may be a hill created by industry, or a little river, with the gods and goddesses presiding over, fitted to run in the line that beauty is demanding,—and all harmonizing with Nature, as taste and genius and science have aided in adorning it. Even the cottage of the laboring Englishman—with his front door so neat,—the roses, and ivy and woodbine creeping over and adorning it, and the well-trimmed hedge in its front, is a jewel upon the face of the earth, and taste has made it so, for Nature has done but little for her father-land. The idea then is preposterous, that the highest effort cannot as well be expended in adorning the surface of the earth, as in chisseling out the rough block of marble, or in putting colors on the canvas to speak. All art is but subsidary to agriculture. The Vatican, and the galleries of the Roman capital, and of Naples and Florence, have been made up from the Roman villas,—from the ruins of the Tevoli of Adrian—the Tusculum of Cicero, or the gardens of Sallust.

We know not why it is, but so it is, there is in the northern States a most unconquerable aversion to agriculture, and the consequence is, with New-England in particular, that a farming people are fed from abroad, by the agriculture of other States, or of foreign nations. The multitude seem more to love the throng—the city,—the tinkling of money in the shop of the broker, or the rustle of silk and calico in the shop of the dealer, than the notes of the sweet songster of the woods, the rich beauty of the trees, or the inviting verdure of spring and summer. One reason is, that we have no farmers, such as the farmers of England, of Holland, or of Lombardy, who embellish Nature, and make their homes more delightful than the loftiest palaces of the town. Our men of wealth in the country, who have sons to educate, prefer to manufacture them into third-rate lawyers, fourth-rate parsons, and sixth-rate doctors, rather than to bring them up in the way that should teach them to raise a double crop from the same acre of land, or to introduce some new product, which should double the available means they now have.

As a farming people, the means of creating wealth from landed estates are not yet half developed. There is no reason on earth why this should not be a vine growing country, and yet it is not! There is no reason why the Old World should find us in silks, and yet it does. So varied is our soil, our climate, and so extended our line of latitude, from the rocky and frozen regions of the river St. John, to the sandy Sabine, that we have all the capacities for doing every thing for ourselves; and yet at this moment, we are oppressed, and overburthened with a prodigious foreign debt. The cotton planters make money. Why may not the hemp growers? The sugar planters make money; and why not the stock growers of even the Green Mountains? *Science* is what is wanted first, and then art and taste will come as handmaids. Educate then your boys in college, if you choose—a good education hurts no man—but make Farmers of them afterwards, if you wish them to be happy and wealthy.

Wall street is a big-sounding place in the history of our time now. We live there some twenty hours in a day, and therefore know something about it. When the Wall street Banks suspend specie payment, the whole Union follow the example. When the Wall street Banks expand, the hearts of the people are made glad. Wall street is the money throne of the United States of America. Its bankers are the money princes of the day. States of the Union have their destinies settled there—and Wall street tells them whether they shall have railroads or not, canals or not,

street make and unmake empires here at will. But Wall street, the Thread Needle street of the New World, is a vile place at best. The street is so dusty, and dirty, so filled up with old bricks, and stones, that respiration even is difficult in it; and a lusty old tree, which has long felt that it was not at home in such a street as this, is sickening and dying away daily in this busy thorough-fare of man. When the clerks within it go home, many of them lie down in boarding houses in rooms no bigger than the coffins of the ancients, and when the money makers of the day reach their families, they are harrassed and agitated by excitement, trembling lest a packet ship should bring them the news of the shipwreck of their fortunes, or some convulsion blast all their hopes. Now in what is this Wall street to be compared with some beautiful river or lake of the country. Not twenty of these men of wealth have a garden as large as the pea-patch of the Farmer. Not one of them who, on a warm summer day, does not envy the Farmer, who has his green grass, his garden, his trees to look at, and above all, his pure air to breathe, and his pure water to drink.

The true art of living is the Roman life, or the life of the English of the present day,—the mingling of the country and the town,—the country for summer, and the city for winter,—with its books, its libraries, its excitement, and the collision of mind with mind. Say not the farmer cannot afford a residence in the city in the winter, for with economy he can. He needs no big palace for himself and family there; let him live as the French do in Paris—in some one story of some large house, with a kitchen and all its appurtenances,—and not in a princely habitation. Economy, a judicious expenditure of money,—prudence and skill will make a little go far. That wealth is the great object of life, particularly in a country where "wealth is" NO "sign of merit," is one of the most delusive and ruinous ideas of the day. All of *matter* that we can gather together, it has been well said, will but give us our bread and clothes,—but there is a double means of living upon the resources of man's own mind, upon taste, upon science and the arts, —when books answer for companions, and when with them, a man can throw himself into every country, and every circle of the habitable globe,—now in the saloons of the European prince, now with the Arab in the desert, and anon with the Indian in his wilderness,—reading instruction in every spear of grass he walks over,—every stone his foot-fall strikes,—in every star above him, and the whole atmosphere, in and around him. To live, and *how* to live, *what* is living are topics we should like to discuss, if we can ever find room and time.

"NOTHING IS BENEATH THE ATTENTION OF A GREAT MAN."

This short sentence is inscribed over the door of the small building in Holland, which was once the workshop of Peter the Great; and furnishes more than volumes of common description and history could do, an insight into the character of the man who raised the Muscovites from the deepest barbarism to the rank of civilization, and laid the foundation of an empire, the extent of which the world seems as yet little able to comprehend.

One of the most fatal errors to which men are subject is the disposition to treat small things with contemptuous indifference; forgetting that great things are but an aggregate of small ones, and that discoveries and events of the greatest importance to the world, can be traced to things most insignificant in themselves. Nothing more truly marks an original mind, and stamps its possessor as a truly great man, than the seizure of circumstances which would pass unnoticed by the great multitude, and by subjecting them to the powerful analysis of his reasoning powers, deducing inferences of the greatest practical results.

The power of the loadstone to attract iron, has been known from time immemorial; accident discovered the fact that a magnetized needle would indicate the north; but for a long time this truth was productive of no results. In the hands of Flavia Gioja of Amalfi, it produced the mariner's compass, an instrument which has changed the whole course of commerce, and opened America and Australia to the rest of the world. To mention only one of the things that the use of the compass in maritime discovery had led to—it has given the potato to Europe, and thus trebled the means of subsistence as well as doubled the population.

We owe the Galvanic or Voltaic battery, one of the most powerful instruments in advancing science the world has yet seen, to Madame Galvani's noticing the contraction of the muscles of a skinned frog accidentally touched by a person on whom her husband was at the moment making some experiments in electricity The experiments of Galvani and Volta were followed up by Davy, Hare and Silliman, and effects which have astonished and instructed the world, have been the result. The dry galvanic pile in the hands of the discoverer, De Luc, was nothing more than a scientific plaything. Singer of London, a mechanic of genius, saw the pile, and applied the power thus generated to move the machinery of a watch; and one constructed by him has now run more than 16 years without winding or loss of motion.

A chemist was at work in his laboratory preparing a powder for a certain purpose. A spark fell into this composition and it exploded; and from that day gunpowder was discovered. Some may question the utility of this discovery, but we do not. Gunpowder has materially aided the miner, the founder and the chemist; but more than all, it has given internal order and tranquility to the kingdoms of Europe, by knocking down those strong holds of feudal barbarism and cruelty, the castles of a haughty and domineering nobility, and placing the weak, so far as regards protection by law, and security to person and property, on a level with the highest.

A German peasant carved letters on the back of the beech tree, and with them stamped characters on paper for the amusement of his children. Nothing more was thought of them; but from them Faust conceived and executed moveable type; and printing, an art that perhaps has exercised a greater influence on the destiny of mankind than any other, thus had a beginning.

Galileo was in a church at Florence, where a drowsy Dominican was holding forth on the merits of the Virgin, and the miracles of the Holy Church; things about which the philosopher cared very little. The principal lamp of the church had been left suspended in such a manner that it swung to and fro in the slightest breath and caught the eye of the philosopher. The regularity of its oscillations struck him, and the idea of employing such vibrations to measure time occurred. Galileo left the church and returned to his study, and in a short time the first pendulum ever made was swinging.

Some children playing with glasses of a Dutch spectacle maker, accidentally placed two so that the steeple of a church appeared much nearer and turned bottom upwards From this small beginning was produced the telescope; an instrument which more than any other, has enlarged the boundaries of the universe, and given to man more exalted ideas of that Being who spake all these worlds into existence.

About one hundred and fifty years ago, an old man might have been seen in his study, apparently amusing himself by witnessing the escape of steam from an old wine bottle, and then checking it by instantaneously plunging it into the cold water. There are multitudes who would sneer at an observer of nature who could stoop to notice such a trifle; yet this expansion and condensation of steam in the wine bottle, and the train of thoughts which it suggested, in the hands of the Marquis of Worcester, gave birth to the steam engine, the most valuable present science has ever made to the arts. These very men who are now fillled with delight and astonishment when they behold the beautiful steam boat majestically ploughing the waves, or the steam car whirling its train of carriages over the railroad with almost the rapidity of thought, would be the first to look and speak with contempt on the train of small causes that led to such important results.

But perhaps the example of Newton, more than any other, conclusively proves that there is in the whole circle of nature, nothing trifling to a great mind. Thousands had seen apples fall from the trees to the earth; yet no one had ever asked the question whether the cause that caused the apple to fall to the earth extended to the moon?—yet this question and its solution was the key that has unlocked the mechanism of the universe, and given to man powers and ideas, which could otherwise never have existed.

The great truth these examples inculcate is this—that there is nothing trifling in nature, nothing that is not worthy of attention and reflection, nothing that does not form part of the great chain of cause and effect, and consequently capable of leading

to the most valuable and interesting events. There is a feeling abroad, that it forms no part of the business of the tiller of the soil to think. This is not true, and the position should be exploded at once. It is scarcely possible for a man to be more favorably situated for an observation of nature than the farmer. His business is with the soil he treads upon, with its various constituents and their ever varying proportions—with the green earth and its covering of grapes and plants, its flowers, while over the head is stretched the broad o'erarching sky, inviting him to useful reflection, and urging him to "look through nature up to nature's God."—[Genesee Far.]

From the New-England Farmer.

MANURE.—Stable and barn-yard manure is rendered of little value by long exposure to the air, sun and wet weather. Indeed, every moment of such exposure takes away from such manure some part of its fertilizing principles. The following remarks on the waste of manure by exposure, have been given in the N. E. Farmer, vol. v. page 342, but may be new to some of our more recent subscribers.

"He who is within the sphere of the scent of a dung-hill," says the celebrated Arthur Young, "smells that which his crop would have eaten, if he would have permitted it. Instead of manuring the land, he manures the atmosphere; and before his dung-hill is finished he has manured another parish, perhaps another county." Stable and barn-yard manure should be kept as carefully from the sun and rain as grass, which has been cut for hay. When cattle have been yarded over night, it will be well to throw their manure into heaps, and cover them with a little loam or marsh mud, previously prepared for that purpose.

"Earth is a powerful absorber of all the gasses which arise from putrefaction. But a layer of common soil along the top of a fermenting dung-hill from 12 to 18 inches thick, and allow it to remain there while the process is carrying on with activity, and afterwards separate it carefully from the heap, and it will have been impregnated with the most fertilizing virtues. The composts, which of late have attracted so universal attention, and occupied so large a space in all agricultural publications, originated in the discovery of this absorbing power of the earth, and in the application of it to the most beneficial purposes. A skilful agriculturist would no more think of allowing a violent fermentation to be going on in this dung-hill, unmixed with earth, or other matter to fix and secure the gaseous aliments, than the distiller would suffer his apparatus to be set at work, without surmounting his still with the worm to cool and condense the rarified spirits, which ascend in evaporation. In both the most precious matter is that which assumes the aeriform state; and to behold it escaping with indifference, is a demonstration of the most profound ignorance."—[Letters of Agricola.]

MEMOIR ON THE CALCINATION OF COKE.

Abridged from the Report, by Messrs. Perdonnet and Leon Coste, in the Annales des Mines.

Coke is obtained in England by two distinct processes; in the open air, and by means of ovens constructed for the purpose. The former is the method usually adopted, the latter being applied almost exclusively to the small coal or slack. In the vicinity of Dudley, in Staffordshire, all the coke is made in the open air; the process consists in forming a small conical chimney, with bricks placed in such a manner as to leave spaces between them, these openings are larger in the lower than in the upper courses, the usual height is about four feet six inches, surmounted by a cylinder of one foot. The coal is then disposed around the chimney, the largest lumps being placed first to form the base of a cone, after which more is thrown on the heap, until the top is above the level of the brick work; the whole surface is then covered with slack, with the exception of the lowest part of the heap, to about one foot high, the fire is then lighted in the chimney at a certain period of the operation the remaining part is also covered with slack, and when the carbonization is judged to be complete the fire is extinguished, by throwing on a sufficient quantity of water and dispersing the materials of the heap.

The dimensions of the coke heaps vary considerably, they are most commonly fourteen or sixteen feet in diameter, and contain about twelve ton of coal. From the time of lighting the pile the operation is completed in seven days, three for the calcination and four for the extinction and subsequent cooling of the mass.

It would appear that a method so simple as this would be invariable in the results nevertheless the contrary is the fact, much depending on the attention and judgment of the burner or superintendant. A ton of coal usually yields twelve cwt. of coke, of sixty per cent. sometimes ten cwt. or fifty per cent. from the same materials. In South Wales both methods are practised, but the coke is not calcined with so much attention as in Staffordshire, the process differs in the heap being made in the form of a long bank four to six feet in breadth, and about three feet high, the large coals in the middle, and the fire being lighted either at one end or at several parts of the heap. At Pontypool and Abergaveny the coke is calcined in the open air; the coal in some parts of this district bears a resemblance to charcoal, in converting it into coke great care is taken to preserve this entire, the operation is completed in five days. In the neighborhood of Merthyr Tidvill the process is conducted in the open air, and although very little care seems to be given to its progress, yet a considerable quantity of coke is produced, the coal being generally dry and giving but little smoke. At Plymouth works six tons of coal yield five tons of coke; at Dowlay 720 lbs. of coal yield from 450 to 500 lbs. of coke; at Pen-y-Darran the operation lasts only three days, the increase in bulk being also very considerable, three tons of coal producing twelve barrows of coke, each containing seventeen cubic feet, or above one-fourth part more than previous to calcination.

At Neath Abbey the carbonization is more rapid than in any other place, it being finished in nine hours, producing rather less than sixty per cent. of coke. In Scotland calcination in the open air is generally adopted; formerly the heaps were burned without much attention being paid to their progress, but the Stafford-shire mode has been used latterly with great advantage, the heaps consisting of eighteen tons of coal, well covered with slack, kept burning three or four days, and four or five days more being allowed for the cooling of the mass, the loss in weight is about fifty per cent.; the old method occupied only five days, but the loss amounted to from sixty to sixty-six per cent. The coke is of very unequal quality, some parts being very heavy and others light and porous. In Yorkshire the coal is arranged in long banks six feet wide by two and a half high, with square vertical chimneys, eight or nine inches in diameter, formed with large coals, at about the distance of six feet from each other throughout the length; the loss is about fifty per cent. in weight.

Calcination in ovens is considered to produce a heavier coke than the open calcination; the process varies but little, being in all cases performed in ovens of a circular or oval form, with a low arch surmounted with a small chimney, the furnace has two doors or openings opposite to each other, sliding in a groove and raised by a lever, they are usually of cast iron, the dimension of the furnace about twelve feet by six; height of the arch in the centre five feet, at the door twenty-one inches; the chimney rises three feet externally and about nine inches in diameter. At Neath Abbey the furnaces are smaller; the chimney is eighteen inches externally, and only one door, but in this case a hole is made in the opposite side to facilitate the clearing out of the coke. From the small coal carbonized in this manner the produce is about sixty per cent. while the same quantity of coal in the open air yields but fifty per cent. the coke from the furnace being so much more dense. At Swansea, by the same process, the produce is about fifty-four per cent.

In the vicinity of Glasgow a circular oven with one door is in use, the diameter is nine feet, height of the arch six feet.—The coke is drawn out every twenty-four hours; the ordinary charge, one ton and a half of coal, rising about two and a half feet in the oven, the loss is from fifty to sixty per cent. On Saturdays the charge is increased to two tons, and is not withdrawn until the Monday. At the Lymington works, near Newcastle-upon-Tyne, all the coke is made in ovens, the usual charge is one chaldron of about two and a half tons, the operation lasts forty-eight hours, and the average loss thirty-nine per cent. The coke is screened to the diameter of about one inch, for smelting in the high furnace, the smaller portion being employed in roasting the ores. At Bradford, in Yorkshire, the method is similar to Newcastle, but the furnaces are smaller, the charge being only about one ton, the loss is about forty per cent. It is difficult to decide to which process a preference ought to be given, the loss

is less in the ovens, but they require more space, more attendants, and more expense while the open carbonization is considered to yield coke better adapted for smelting in the high furnace.—[Lond. Quar. Mining Review.]

FACTS *for consideration*, and they should cause serious reflection.—[Eds. Mechanics' Mag. Railroad Journal, and N. Y. Farmer.]

Eight years ago we had a United States Bank of $35,000,000 capital, *twenty million of specie* in the country, and a currency equal to any in the world.

The United States Bank has been vetoed, the deposites removed into the "pet banks," and now, with *eighty millions of specie* in the country, we have either no currency at all, or *one of the very worst in the world!*

Eight years ago a man could travel through the United States and Canada with bills of the United States Bank, and without having to pay *one* per cent discount.

Now, the pet and other bank bills are from *five* to *ten* per cent. discount, even in the States to which they belong.

Eight years ago, with twenty million of specie in the country, they were at par, and all the banks paid for their notes in specie. Now, none of the banks pay it, and *one hundred and ten dollars* of the best bank paper must be given for one hundred dollars in specie.

Eight years ago we had specie for change; now we have thousands of tickets called "*shin plasters*," or no change at all.

Eight years ago, business, commerce, and trade all went on smoothly and prosperously. Now, business is broken up, trade destroyed, and bankruptcy, distress, and poverty, staring people in the face.

Eight years ago, the expenses of Government were thirteen millions of dollars. Now, they are over thirty-two millions of dollars.

From the Scientific and Literary Journal.

PRECIOUS STONES.

GEMS, or precious stones, as they are frequently called, are for the most part transparent, and have a vitreous or glassy appearance. Their different colors are occasioned by metallic oxydes of various kinds with which they are impregnated, Some writers have classed them by their colors, but this is a very uncertain mode, since different gems have not unfrequently the same color, and in many cases, the same gems are of different colors. The usual distinction of gems into oriental and occidental is also liable to error, since the best gems, from whatever part of the world they are brought, are always called oriental. The most estimable of all the species are the diamond, ruby, emerald, and sapphire. The amethyst topaz, and aqua marine are considered of nearly equal value with each other; and the garnet is the cheapest of precious stones.

The ancients engraved upon several kinds of gems, but they appear to have been ignorant of the art of cutting the diamond, the ruby, and the sapphire, which were too hard for them to operate upon. The emerald and the opal were too highly esteemed as precious stones to have often found their way into the hands of engravers. The garnet was often engraved upon, and there are many master-pieces of the art in chalcedony and cornelian. Onyx and sardonyx were employed for that species of engraving in relief called cameos; and in many instances, it is pleasing to observe with what dexterity the ancient artists availed themselves of the different colors in the alternate zones to express the different parts and shades of their figures.

DIAMONDS.

The diamond, or adamant of the ancients, which, by universal consent, has been placed at the head of the mineral kingdom, is the hardest of all bodies, and, when pure, is perfectly transparent, like crystal, but infinitely more brilliant.

The best are brought from the East Indies; and the principal mines are those of Raolconda and Coulour, in the province of Golconda; and that of Soumelpour, or Goual, in Bengal. At Raolconda they are found in deep crevices of the rocks. Persons, by means of long iron rods, with hooks at the ends, draw out from these crevices the loose contents, and afterwards wash them in tubs, for the purpose of discovering the diamond.

As soon as all the earthy particles have been washed away, the gravel-like matter that remains is raked together, the stones are thrown out, and what diamonds happen to be present are found among the refuse that is left.

In order to ascertain whether a stone which has been found be really a diamond, the workmen have a mode of placing it upon a hard substance, and striking it with a hammer. If it resist the blow, or seperate into leaves. it must be a diamond; but, in the latter case, the discovery is made at an immense expense, since by thus diminishing the size, its value must also, of course, be greatly diminished.

When the diamond is rubbed, it will attract bits of straw, feathers, hairs, and other small objects; and if exposed to the rays of the sun, and immediately taken into a dark place, will appear luminous.

CHRYSOLITE.

Chrysolite is the softest of all the gems, and usually of yellowish green color, though sometimes it is grass green, or bluish green, but with a tinge of brown.

Though scarcely harder than glass, and consequently inferior to most other gems in lustre, these stones are not unfrequently used in jewelry, particularly for necklaces and ornaments for the hair; and when well matched in color, and properly polished, their effect is very good. They are, however, too soft for ring stones.

This stone is imported from the Levant, and is said to be found in Upper Egypt.

GARNET.

This stone is found abundantly in many mountains of different parts of the world. But those of the hardest and best quality are brought from Bohemia, where there are regular mines of garnets; and a great number of persons are there employed in collecting, cutting and boring them. The boring is performed by means of an instrument, having a diamond at its extremity, which is rapidly turned by a bow.

Garnets vary much in size, some of them being upwards of an inch in diameter, and others not larger than a pin's head. Generally speaking, they are stones of inferior value.

In comparison with the ruby, those even of finest quality have a very sombre appearance. The kinds most esteemed are such as have a clear and intense red color, or a rich violet or purplish tinge. The latter are called *Syrian garnets*, not from the country of that name, as is usually supposed, but from the word *soranus* which signifies a *red stone*,

The best garnets are cut, in the manner of other precious stones, and set upon a foil of the same color; but some are cut into beads, and strung for necklaces.

SAPPHIRE.

The oriental sapphire is a gem of blue color, the shades of which vary, from a full and deep tint to a nearly colorless appearance.

We are chiefly indebted for the sapphire to the East Indies and the island of Ceylon, where it is found among the sand of the rivers.

In hardness the sapphire ranks nex to the ruby, and in value it is about equal to the emerald. In the Museum of Natural History at Paris, there is a sapphire which weighs upwards of sixty-six carats, and which was placed there from the wardrobe of the crown.

It is said that sapphires lose their color in the fire, and that, after having been subjected to heat, they are so hard and transparent as sometimes to be sold for diamonds.

RUBY.

Oriental ruby is a precious stone of very intense and bright red color, occasionally varied with blue, and sometimes particaly colored.

The ruby is imported into this country from the East Indies, though seldom in a rough state, since the stones are almost always first cut by the Indians for the purpose of ascertaining their value. They are said to be found in the sand of certain streams near the town of Sirian, the capital of Pegu; and with sapphires in the sand of the rivers of Ceylon.

The hardness of this stone is such that the ancients do not appear to have possessed the art of cutting it; and in the improvements which have of late been made in the construction of time-keepers, no stones have been found sufficiently hard for jewelling the holes, except the ru by and the diamond.

AMETHYST.

The amethyst was a gem well known to the ancient Greeks and Romans, and held by them in great esteem. Its name is derived from the Greek language, and implies a power of preventing intoxication, which, originating no doubt in the resemblance of its color to that of wine, and the absurd

doctrine of sympathies, it was believed by the ancients to possess. They ascribe to it many other virtues equally surprising and equally absurd, particularly that the wearing of it would expel melancholy, procure the confidence and friendship of princes, render people happy, and even dispel storms of wind and hail. The ancients frequently engraved upon the amethyst; and their favorite subject was the representation of Bacchus and his followers.

Persons accustomed to make imitations of the precious stones find the amethis one of the easiest to be counterfeited.

TOPAZ.

The topaz is a gem usually of a wine yellow color, but sometimes orange, pink, blue, and even colorless like rock crystal.

The word topaz is derived from an island in the Red Sea, where the ancients found a stone, but very different from ours, which they denominated topaz. The best, are of deep color, which are imported from Brazil; and the most brilliant are supposed to be those of Saxony; but the latter are generally of very pale color. This species of gem is also found in Siberia and other countries. It is often defective in transparency, and sometimes even opaque.

It is a somewhat singular circumstance, that if the topaz of Saxony be gradually exposed to strong heat in a crucible, it will become white; and, on the contrary, that the Brazilian topazes by the same process become red or pink. The latter are not unfrequently sold, as natural stones of this color, by the name of *pink topazes* and *Brazilian rubies*.

The *blue topaz* is a rare Brazilian gem, which varies in size from one or two carats to two or three ounces. The *white topaz* is perfectly colorless. This stone, which generally occurs of small size, is in considerable estimation in Brazil. It is usually employed in circular ear-rings, or for the purpose of being set round yellow topazes.

EMERALD.

The emerald is a well known gem of pure green color. By the ancients it was in great request, particularly for engraving upon. They are said to have procured it from Ethiopia and Egypt. The most intensely colored and valuable emeralds that we are acquainted with are brought from Peru.

The emerald is one of the softest of the precious stones; and is almost exclusively indebted for its value to its charming color. The brilliant purple of the ruby, the golden yellow of the topaz, the celestial blue of the sapphire, are all pleasing tints; but the green of the emerald is so lovely, that the eye, after glancing over all the others, finds delight in resting upon this.

The largest emerald that has been mentioned, is one said to have been possessed by the inhabitants of the Valley of Manta in Peru, at the time when the Spaniards first arrived there. It is recorded to have been as big as an ostrich's egg, and to have been worshipped by the Peruvians, under the name of the Goddess, or Mother of Emeralds. They brought smaller ones as offerings to it, which the priests distinguished by the appellation of daughters. Many fine emeralds are stated to have been formerly bequeathed to different monasteries on the continent; but the greater part of them are said to have been sold by the monks, and to have had their place supplied with colored glass imitations. These stones are seldom seen of large size, and at the same time entirely free from flaws.

The emerald, if heated to a certain degree, assumes a blue color; but it recovers its own proper tint when cold. When the heat is carried much beyond this, it melts into an opaque colored mass.

AQUA MARINE.

The beryl, or aqua marine, is a light or mountain green variety of the emerald, sometimes straw colored, bluish, yellow, or even white.

These stones are of such frequent occurrence, even in large pieces, perfectly clear and free from flaws, and in general so soft, and have so little the brilliancy of other gems, that they are generally considered of very inferior value. The most beautiful kinds are brought from Dauria, on the frontiers of China, from Siberia, and from Brazil.

TOURMALINE.

The tourmaline is a stone belonging to the same family as the emerald, and generally of a smoky blackish color, though it is sometimes green, red, blue, or brown.—When not very thick, it is transparent.

This stone was first made known in Europe about the beginning of the last century, by the Dutch merchants, who brought it from the island of Ceylon, where it is principally found. When strongly heated, it becomes electric; one of the summits of the crystal negatively, and the other positively. An early writer by whom it is mentioned, says that "it has the property not only of attracting ashes from the warm or burning coals, but that it also repels them again, which is very amusing: for as soon as a small quantity of ashes leap upon it, and appears as if endeavoring to writhe themselves by force into the stone, they in a little time spring from it again, as if to make a new attempt. It was on this account that the Dutch called it the ashes drawer."

When laid on the table, the tourmaline appears dark and opaque; but when held against the light, it has generally a pale brownish hue. It is sometimes cut, polished and worn as a gem; but on account of the muddiness of its colors, is not in general much esteemed. Those persons who wear tourmalines set in rings, consider them more as objects of curiosity than of elegance: they show them as small electrical instruments, which it is only necessary to expose for a little while to the heat of a fire, to make them attract and repel light bodies, to the amusement of all who are unacquainted with their qualities.

CORNELIAN.

Cornelian is another kind of agate, usually of a red or flesh color, though sometimes white, orange or yellow.

On several of the British shores, cornelians are found with other pebbles; but the most beautiful and valuable kinds are imported from the East Indies. These are sometimes so large as to measure nearly three inches in diameter. The kinds principally in request are those of pure white and bright red color; and jewellers have the art of changing the color of the yellow varieties to red, by heat.

No stone is so much in request for seals, as the cornelian: it is likewise cut into beads for necklaces, and stones for ear-rings; into crosses, bracelets, and other trinkets, which in India form a considerable branch of traffic.

ONYX.

Onyx is a kind of agate, marked alternately with white and black, or white and brown. Its name is derived from the Greek language, and has been given on account of its resemblance in color to the whitish band at the base of the human nail. The distinction which appears to be made betwixt *onyx* and *sardonyx*, arises from the colors of the former being arranged either concentrically, or in a somewhat confused manner, and those of the latter in regular stripes or bands.

Both these kinds are highly esteemed by lapidaries, for the formation of vases, snuff-boxes, and trinkets of various kinds. Of the sardonyx the ancients made those beautiful cameos, many of which still ornament our cabinets.

The onyx is imported from the East Indies, Siberia, Germany, and Portugal.

OPALS.

Opals are a semi-transparent kind of stones, which have a milky cast, and when held betwixt the eye and the light, exhibit a changeable appearance of color.

There are in Hungary some quarries or mines from which, about four centuries ago, opals were obtained in such abundance, that upwards of three hundred persons were employed in them. These quarries still produce opals, some of which are so valuable as to pass in commerce under the appellation of *oriental opals*, whilst others are so poor as to be of no value whatever to the jeweller. Opals are also found in other parts of Europe, and in the island of Sumatra, and several parts of the East Indies.

Few precious stones are more beautiful than opals. Their elegant play of colors, brilliant blue, green, red and yellow, variously modified, have procured for them a distinguished rank among the gems. Notwithstanding this, they are but ill suited to the purposes of jewelry, on account of their softness, their great frangibility, and their sometimes splitting on a change of temperature. By the Turks they are so peculiarly esteemed, that a fine opal of moderate size has been sometimes sold at the price of a diamond. The esteem in which they were held among the ancients Romans was such, that Nonius, the Roman senator, is stated to have preferred banishment to parting with a favorite opal which Mark Anthony was anxious to possess.

In the abbey of St. Denys, near Paris, there was formerly a curious ancient opal, which was green on the outside, and when viewed against the light, exhibited a fine ruby color.

In the purchasing of opals, great caution is requisite, since fine glass pastes have not unfrequently been substituted for them, and sold at enormous prices.

Hydrophane, or *oculus mundi*, is a kind of opal, the distinguishing characteristics of which is, that it gradually becomes transparent by immersion in water. It is either of

a whitish brown, yellowish, green, milky grey, or yellow color, and opaque. The name of *oculus mundi* has been given to these stones from an internal spark, or luminous spot, which changes its position according to the direction in which they are held to the light. The countries in which they are chiefly found are Hungary and Iceland.

The phenomena of their becoming transparent in water, is supposed to be occasioned by that fluid soaking through their whole substance, in the same manner as the transparency of paper is occasioned by the immersing it in oil. When taken out of the water, these stones, as they dry, become again opaque.—[Bingley's Useful Knowledge.]

Items.

AGRICULTURE.

One effect which it is supposed the present state of times will have, may be looked upon as decidedly advantageous, and that is now in the greater attention which it is probable will be given to agricultural pursuits. The fertile, uncultivated lands, with which portions of our country abound, have been too much overlooked, and we presume will be more carefully looked after. The life of a farmer has more attractions, by far, and more solid, substantial comforts than the multitude seem willing to concede. Too many have, of late years, left its quiet and healthful pursuits, to crowd into the already over crowded cities; forsaking with most perverted tastes, the green fields and fine atmosphere of the country, for the dust and noise, and confined air, that is found in streets and alleys. We think attention will be now strongly turned to the cultivation of the soil, by thousands whom the embarrassments of the times have deprived of employment and as a consequence, provisions of every kind, will be more abundant and cheaper. It is time the current should set the other way, and if the distress under which the whole country now suffers, has the tendency to divert labor into its more appropriate channels, we may find that even this affliction has not been without its advantage.—[U. S. Gazette.]

The Crops.—The coming season bids fair to be one of the most productive ever known. The agriculturists have been taught a useful lesson, by the experience of the past year, and there probably was never so much ground put under cultivation in the United States, at any one time, as there has been this spring. Our exchange papers from every quarter, brings us cheering accounts of the state of the crops, and all anticipate a rich harvest.—This is really good news. The past year has been one of dire disaster in almost every respect, and the scarcity and high price of provisions, has intensely aggravated the other evils; but a couple of fruitful years will go far towards repairing all our losses.—[Buffalo Com. Adv.]

We are pleased to learn from almost every part of the country, that the wheat fields are in a very flourishing condition, and bid fair to yield a good crop.—[Minors Journal, Pottsville, Pa.]

The Season and Crops.—For about three weeks, the weather has been cold and wet. On Tuesday week there was frost, and on Monday the 29th inst. another severe one. The blossoms of the apple began to appear a week since, but have made but little progress since. Our gardens are very backward, and spring grain is not sufficiently advanced to warrant an opinion as to its promise. Wheat has improved very much since the rains set in, and there is now a fair prospect of full three fourths of a crop—at least in this vicinity. So far as we may judge by the newspaper accounts, this part of the State is as well advanced as any other. The season below the Highlands has not started vegetation much if any before ours, and the ice in Lake Erie has retarded it at the west considerably behind the usual period.—[Onondaga Standard, May 31.]

New method of propagating Apple Trees.—A new plan for increasing plantations of apple trees, has lately been carried into extensive practice by the horticulturits of Bohemia. Neither seeds nor grafting are required. The process is to take shoots from the choicest sorts, insert them in a potato, and plunge both into the ground, leaving but an inch or two of the shoot above the surface. The potato nourishes the shoot, while it pushes out roots, and the shoot gradually grows up and becomes a beautiful tree, bearing the best fruit without requiring to be grafted.

Whatever may be the success of the undertaking, its novelty is at least an inducement to give it a fair trial.

Rose Bugs.—The best antidote against the rose bug, and the small yellow bug, that has yet come under my inspection, is *slacked lime* applied with a dredging box, while the fruits or plants are wet with dew. If the fruits or plants be wet with a weak solution of gum arabic previously to the application of lime, it will remain on them much longer, and no injury will be sustained by it. If applied to young cucumber plants, the seed leaves must be carefully turned up, wet, and the lime applied as aforesaid. The lime used has been nicely slacked with a little water, one year, for the purposes of the garden. Perhaps it would be equally as well if slacked immediately before its application.

It was found that if rose bugs while on plants be thoroughly wet with very strong soap suds, (one gill of strong soap to one quart of water) they soon die. This strength did not injure the plants on which it was tried. This experiment was made when the bugs were on the decline, and whether the mixture would have the same effect in the beginning of their race, while in their utmost vigor, or prevent from preying on the plants wet with it, further experiments may determine. It is needless to say any thing in this paper, as to the fertilizing power of this application or that of lime.—[Dr. R. Green, Mansfield, Mass.]

Engrafting Grape Vines.—A friend of the editor says that he has succeeded in grafting foreign grapes on native stocks, and thinks that notices on that subject may be useful. In the N. E. Farmer, vol. vii. p. 329, are some directions relative to this improvement, which were, originally, communicated to John Prince, Esq. by Brig. Gen. Armistead, from which the following are extracted:

"I picked out four *native* vines, [in the month of March] and headed them down as low as the turf, and after going through the common process of inserting the graft, I bound them with woolen yarn, and covered them with common grafting clay, and to make the process doubly sure, I cut large sods and enclosed the grafts completely, and covered them in this way about four inches, leaving two eyes exposed. The experiment proved the utility of thus preserving them from sun and air, for three out of four took, and on the head of the largest vine, I put two grafts, both of which survived, which made it equal as if all had taken. The result of the first year was, that the grafts averaged a growth of from nine to twelve feet. The second year they bore many bunches of graper. The third year my mother wrote me that they had gathered upwards of two barrels from my four vines. The succeeding year the neighborhood was in part supplied, and from others following the example, no failure of fine fruit has, I believe, existed in that neighborhood."

We believe it is not yet too late to graft grape vines, and wild stocks to engraft on may be found in woods, &c., in many parts of the country.

HORTICULTURAL SOCIETY OF PENNSYLVANIA—LIBERAL PREMIUM.

We have been favored with a copy of the advertisement of this society offering premiums for "*culinary* vegetables, fruits, and flowers, for 1837," and on looking over them we are gratified to find that its members are influenced by feelings of enlarged liberality.

We comply with their request to publish the subjoined, with pleasure; the generous spirit which animates the institution is to be seen in this noble effort to preserve one of the most delicious of fruits, from its most deadly enemy, and we sincerely hope that the pecuniary stimulant they offer will serve to urge the nursery men and horticulturists of our country, to turn their attention seriously towards the discovery of the preventive in question.

BLIGHT IN PEAR TREES.

The Pennsylvania Horticultural Society, anxious to promote the discovery of preventive for the disease usually termed *blight* in Pear Trees, offers a premium of FIVE HUNDRED DOLLARS, to be paid the person who shall discover and make public an effectual means of preventing its attack. The premium not to be awarded until after the expiration of three years from the publication of the preventive, nor until the Society shall be fully satisfied of its efficacy. Communications on the subject may be addressed per mail to David Landreth, Cor. Secretary, Philada.

Infusion of Walnut Leaves to destroy Insects.—It appears by a commu-

nication to the London Horticultural Society, by Sir Charles M. L. Monck, Bart., that worms which infested plants in pots, were destroyed by a pint of an infusion of walnut leaves given to each pot. The worms quickly emerged from the mould to the surface, and were removed. This treatment was repeated the following week, when a few more worms were extracted; the plants, which had been sickly, after this application resumed their health and blossomed strongly. This success induced Sir Charles to try the experiment on orange trees, and other plants in pots, and it was attended with equal success. He thinks that the infusion is beneficial, not only in destroying worms, but that it acts also as a manure. The infusion is made by pouring boiling water on fresh walnut leaves; which having stood till cold is ready for use.

Forsyth recommends a decoction of walnut leaves as an antidote to insects, and a decoction of elder leaves is also said to answer the same purpose.

Fat Oxen.—Messrs. Hillman and Thayer, of this town, slaughtered a pair of oxen last week, from the stall of Mr. George Cook, which presented as fine specimens of beef as we ever witnessed. We saw a hind quarter as it lay in the butchers' cart, and it appeared to be almost a complete mass of fat. The fat on the rounds was apparently two or three inches thick. Our stomach yearned, as may well be supposed, for a good cut from the tender loin, but we were compelled to turn disappointed away, for the price was fourteen cents a pound. These oxen weighed 4,385 on the hoof, and after they were dressed, 3,190 pounds. The butchers paid ten dollars the hundred pounds.—[Hampshire Gazette.]

From the Mechanics' Magazine.

AN IMPROVEMENT IN THE CONSTRUCTION OF CHIMNEYS.

I have thought that an improvement would be made in the construction of chimneys, by building the flues circular instead of square. By a plan which I shall describe, the inside of the flues might be made much smoother with less trouble than the square ones are now made, and might be carried up with less variation in the size.

My plan is, to mould brick clay into pieces about 24 or 30 inches long (or any length most convenient in using,) about two inches thick, and shaped like half of a hollow cylinder, divided from end to end. When the fire-place is built, the flue should be brought to its size in a circular form, sufficiently large for the free passage of the smoke. The outside of the chimney being carried up a few courses, two of the half tubes are to be put on as a continuation of the flue, with mortar under the ends on which they stand, and between the edges which come together. They will thus form a circular tube, which should be of the same diameter as the flue where they are put on. Where the flue bends, it will be necessary to cut the ends of the pieces, so that they will make an angle, when put together, in the same manner as the joints of a stove pipe. When the tops of the pieces come even with the outside course of bricks, they might be tied by thin pieces of iron plate, such as are used for binding the fronts of walls to the inside work. The advantages of this plan, I think, are, the flue has a shape which I believe is considered the best for carrying smoke; the inside is smoother than the square ones usually are, and it therefore presents fewer impediments to the passage of the smoke; the chimney might be cleaned easier than the square ones, for a circular brush passed up and down, by means of a rope, would sweep well and quick, and the chimney-sweep might thus be spared his labor inside of the flue. I should think the expense would not be more than that of the square flue, after the brick-maker had got the necessary tools, and had had some practice in the manufacture of the flue pieces.

If you or any of your readers are disposed to examine this plan, and show its defects, or improve it in any way, I shall be glad to read their opinions in your next, or as soon as convenient. A. H. W.

Patent Rifle.—We have recently examined a patent rifle of improved construction, and superior workmanship. It is an invention of our ingenious citizen, Mr. Thomas M'Carty, who has sold the right to Mr. John Lamb, of Southport. The improvement divides itself into various items; 1st, the breech and barrel are united, by a joint that is opened by means of loosing a catch, and are held together by two stirrups, one on each side of the barrel, so that the breech may be folded over against it, and thus the piece carried in a trunk or chest; 2d, it has, as appendages, any desired number of iron tubes for cartridges, which may be charged at leisure, and carried at convenience—these can be placed in the barrel at the breech and discharged at the rate of ten to a minute, with ease: these tubes are made with a cone at the lower end, that fits into a niche in the barrel and projects to receive the percussion cap already fitted on, so that the piece can be loaded and fired as fast as the joint can be loosed, and the tubes exchanged—all which may be done with ease in any position; 3d, it is easily cleaned, if it should become foul, as there is no breech-pin, and the barrel, when the tube is out, has no obstruction; 4th, its construction is simple, and its cost, to the manufacturer, cannot much exceed that of ordinary, well made rifles; 5th, it is perfectly safe, as it cannot possibly be fired until every thing is ready; and it need not be carried or left with a load in it; 6th, it can be used with as much certainty in wet weather as dry; 7th, it has no incumbrance of a ramrod and its appendages; 8th, there is no drawing loads, for if a tube should miss fire, it can be instantly replaced with another; 9th, it is pretty, light, cheap and so nicely made that the joint would not be detected by ordinary inspection. The same principle is applicable to fowling pieces, *two* of which have been made. This is the only rifle of the kind that has been completed. We should think the article would find a ready market among sportsmen, prove valuable to the manufacturer, and in war be of great importance. By the use of this invention, the ordinary laborious *drill* for loading rifles and muskets would be superseded entirely. —[Elmira Republican.]

Nature of different Cements.—(Berzelius's Jahresbericht, etc. xivth. year, 1st number.)

Fuchs has studied the nature of different species of mortars, and demonstrated that their solidification depends on the formation of silicate of lime, and sometimes also of silicate of alumine. These silicates retain some water and assume the firmness of stone, whilst the hydrate of lime in excess unites by degrees with carbonic acid; and consequently solidified mortar may be considered a compound of carbonate of lime and of a zeolite. *Opal, pumice stone, obsidian* and *pitch stone* pulverized, form with hydrate of lime a good cement. But only the surface of each grain of *quartz* or *sand*, is transformed into a hydrated silicate, and though this is sufficient to unite the mass, solidification does not take place so promptly. The mass becomes the more solid, the more finely the quartz is pulverized. If the pulverized quartz be mingled with one-fourth part of lime, and after thoroughly calcining the mixture, it be pulverized and mixed with one-fifth part of lime, it forms a hydraulic cement which becomes so hard as to be susceptible of a polish. Feldspar hardens slowly, and with lime only after five months; but if calcined with a little lime it is much improved.—Common potter's clay, which is absolutely worthless in its natural state, affords with lime, when calcined, provided it contains but little iron, a cement which readily hardens.

Fuchs having discovered that *steatite*, which had been subjected to a red heat, could not be made to unite with lime, and thence concluding that magnesia has a strong affinity for silicic acid, attempted to employ calcined dolomite, in the place of ordinary lime, and found that it surpassed it, both as a material for ordinary mortar, and also for a hydraulic cement. He obtained a good mortar with this last material and calcined marl.

Telegraphs.—The House of Representatives of the United States, at their late session, Feb. 3, 1837, passed a resolve.

"That the Secretary of the Treasury be requested to report to the House of Representatives, at its next session, upon the propriety of establishing a system of telegraphs for the United States.

In compliance with this resolution, the Secretary, the Hon. Levi Woodbury, has issued a circular, with the view of obtaining information in regard to "the propriety of establishing a system of telegraphs for the United States," and invites the collectors, commanders of revenue cutters, and others to furnish the Department of State with their opinions upon the subject, especially by pointing out the manner, and the various particulars, in which the system may be rendered most useful to the Government of the United States, and the public generally. It would be desirable, to

present a detailed statement as to the proper points for the location, and distance of the stations from each other, with general rules for the regulation of the system, together with an opinion as to the propriety of connecting it with any existing department of the Government, and some definite idea of the rapidity with which intelligence could, ordinarily, and, also, in urgent cases, be communicated between different places. An estimate of the probable expense of establishing and supporting telegraphs, upon the most approved system, for any given distance, during any specified period, is also desired. Information and opinions are also asked as to the practicability of uniting with a system of telegraphs for communication in clear weather and in the day time, another for communication in fogs, by cannon or otherwise, and in the night, by the same mode, or by rockets and fires, and returns are asked by the 1st of October, 1837.

As the subject is one of high importance to national and individual welfare, especially in a country of such vast extent and diversity of interests and physical features as the United States, we trust that the call of the House of Representatives and of the Hon. Secretary will meet with prompt attention and full replies.—[American Jour. of Science and Arts.]

Advertisements.

MECHANICS' FAIR.

Notice to Mechanics, Artisans, Manufacturers, &c.—The undersigned give notice that the first Annual FAIR of the Massachusetts Charitable Mechanics' Association will be held in the city of Boston, in September next, commencing on Monday, the 18th, and continuing at least three days.

The Association have placed at the disposal of the Board of Managers, the sum of Five Thousand Dollars, to enable them to conduct the Fair upon a liberal scale; and they hope to be able to render satisfaction to all who may feel disposed to offer articles for exhibition.

Medals or Diplomas will be awarded to the owners of all articles that may be deemed worthy of such distinction; and the Managers intend that the strictest impartiality and fairness shall be observed in the distribution of Premiums.

The Managers, in furtherance of the object they have in view, invite contributions of articles from every department of industry; of choice specimens of American ingenuity and skill; rare and valuable domestic productions, natural or artificial; the delicate and beautiful handiwork of females; useful labor-saving machines, implements of husbandry, and new models of machinery, in all their varieties.

Judges will be appointed to examine all articles offered, and the managers will award a gold or silver medal, or a diploma, to all articles that may be pronounced by the judges worthy of reward.

Articles intended for exhibition, must be delivered on or before Wednesday, September 13th.

Arrangements will be made to exhibit, in operation, any working models that may be offered, which will render the exhibition useful and interesting, and the managers respectfully invite contributions in this branch. A careful and competent superintendent will be appointed to take chare of all models sent for this purpose.

Board of Managers.

Stephen Fairbanks,	Jos. T. Buckingham,
John Rayner,	James Clark,
William Adams,	Henry W. Dutton,
Uriel Crocker,	George Darracott,
Gardner Greenleaf,	Wm. S. Pendleton,
James L. Homer,	Charles A. Wells,
James Barry,	Henry Bailey,
Joseph Tilden,	Jonas Chickering,
Ephraim Harrington,	Henry H. Barton,
Joseph Lewis,	Thomas Boyd,
Walter Frost,	Wm. Uunderwood,
Thomas J. Shelton,	George G. Smith,
	John G. Rogers.

P. S. For any further information address JAMES L. HOMER, Corresponding Secretary, Boston.

Boston, March 24, 1837. m28–ts1

FLOWER SEEDS—DAHLIAS, &c. The present month is a suitable season for sowing annual flower Seeds: the subscriber offers for sale a very extensive variety, including many that are new and beautiful, received from London, Paris, and Amsterdam. Packets of 20 select and showey varieties, inclosed in an envelope, with directions for management, $1; a collection of 500 sorts, $5.

Also, Double Dahlias of the most choice varieties, for which a separate catalogue is furnished, can be packed to carry to any part of the country.

Also, White Italian Mulberry Seed, Chinese, do French Sugar Beet Seed, Mangel Wurzel, Ruta Baga, with a general assortment of seasonable Garden Seeds, growth of the last year.

GEORGE C. THORBURN,

11 John street, near Broadway.

☞ Strangers visiting the city are invited to call in the day time—the Aviary and Picture Gallery will be found worthy of inspection. May—6

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE,—Is published *semi-monthly*, at No. 30 WALS-ST., *basement story*, at *Three Dollars* a-year, *in advance*, by D. K. MINOR & GEO. C. SCHAEFFER.

THE FARMERS' REGISTER. A monthly publication, devoted to the IMPROVEMENT of the PRACTICE, AND SUPPORT OF THE INTERESTS OF AGRICULTURE. EDMUND RUFFIN, Esq., Editor and Proprietor, Petersburgh, Virginia. Subscription price *five Dollars a year*. This work is now in its fifth volume.

THE RURAL LIBRARY.—A *publication of standard works entire, compiled, abridged, and original, on Agriculture, Gardening, and domestic economy*, in *monthly parts*, by SAMUEL FLEET, at his Agricultural Warehouse and Seed Store, 79 Barclay-street, N. Y., at $3 per annum in advance.

THE MAGAZINE OF HORTICULTURE, BOTANY, *and all Useful Discoveries and Improvements in Rural Affairs*,—Edited by C. M. HOVEY, and published Monthly, at $3 per annum, by HOVEY & Co., Cornhill, Boston, and Israel Post, Bowery, New-York.

THE GENESEE FARMER Published by LUTHER TUCKER, a Rochester, Genesee Co., N. Y., Terms. The Farmer is published every Saturday, making an annual volume of 416 pages, to which is added a Title page and Index, at the low price of $2,50, or $2.00 if payment is made at the time of subscribing.

☞ All subscribers must commence with the volume, Jan. 1, or with the half volume, July 1. No subscription taken for less than six months.

☞ The monthly Genesee Farmer is made up of selections from this paper, and published on the first of each month, forming, with Title page and Index, an annual volume of 200 pages, at the low price of Fifty Cents a year, *payable always in advance*.

THE WESTERN AGRICULTURIST Is published by EDWIN R. SELBY, semi-monthly at Ravenna, Portage County, Ohio, at One Dollar a year, *in advance*.

☞ Six copies for Five Dollars, and twelve copies for Ten Dollars.

THE NEW-ENGLAND FARMER, Edited by T. G. FESSENDEN, and published by JOSEPH BRECK & Co., No. 52 North Market-street, Boston, is published every Wednesday, at $3 per annum, payable at the end of the year—but those who pay within sixty days of the time of subscribing are entitled to a deduction of 50 cents.

☞ No paper will be sent to a distance without payment being made in advance.

THE CULTIVATOR, J. BUEL, Esq., Editor, is published at Albany, Sixteen pages, once a month, at Fifty Cents a year, *always in advance*.

THE MAINE FARMER, Is published every Tuesday morning at Two Dollars per annum if paid in advance, $2,50 if payment is delayed beyond the year.

No paper will be discontinued at any time, without payment of all arrearages, and for the volume which shall have then been commenced, unless at the pleasure of the publishers.

All money sent, or letters on business, must be directed, *post paid*, to WM. NOYES, Publisher, Hallowell, Me. E. HOLMS, Esq. Editor.

THE FARMER AND GARDENER, This publication is the *successor* to the late AMERICAN FARMER, and is published at the N. E. corner of Market and Charles-sts., Baltimore, Md., at Five Dollars per annum, *payable in advance*. All subscribers who pay in advance, will be entitled to 50 cents worth of any kind of seeds, which will be delivered, or sent, to their order. E. P. ROBERTS, Esq., Editor. SANDS & NEILSON, Publishers.